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The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEER

Published Every Thursday TULSA, OKLAHOMA, AUGUST 6, 1931

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The OIL and GAS JOURNAL

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

VOL. 30. NO. 12. TULSA, OKLAHOMA, AUGUST 6, 1931

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Crude Market Is Considerably Stronger

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Shutdown Order in Oklahoma With Expected Stabilization of Conditions in East Texas Strengthens Situation

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

Governor Murray's order shutting down all wells, in prorated fields of Oklahoma, making more than 25 barrels daily, except producers showing water or being worked over, backed by martial law established in these oil fields, will reduce Oklahoma's crude oil production for the current week an average of approximately 70,000 barrels daily. The Oklahoma City Field may register an increase over the average for the week ending August 1, regardless of the order, as operators opened their wells last Saturday, in anticipation of the shutdown order, and had produced more than 450,000 barrels from last Saturday morning until Wednesday morning of this week. If the governor's order is effective in all fields covered during next week, about 383,000 barrels daily will be affected which would leave Oklahoma a production of somewhere around 170,000 barrels daily.

Withdrawals from storage in Oklahoma and Kansas have averaged close to 100,000 barrels daily for the past two weeks. Any substantial reduction in production of the State naturally will increase these withdrawals. A number of smaller refineries undoubtedly will have difficulty in obtaining sufficient crude for their requirements. Companies are reluctant to withdraw crude from storage at present prices, hence the reason for a considerable strengthening of the crude oil market.

The Texas legislature will have to act on conservation measures by August 13, the last day this special session can continue. Consequently the industry will know within the next two weeks what it can expect in way of production from East Texas. Any substantial reduction in output in that area undoubtedly will be followed immediately by an increase in crude oil prices throughout the United States, east of California. It seems entirely probable crude price increases would have been announced in the Mid-Continent territory during the past week had the industry not been waiting for Governor Murray to act.

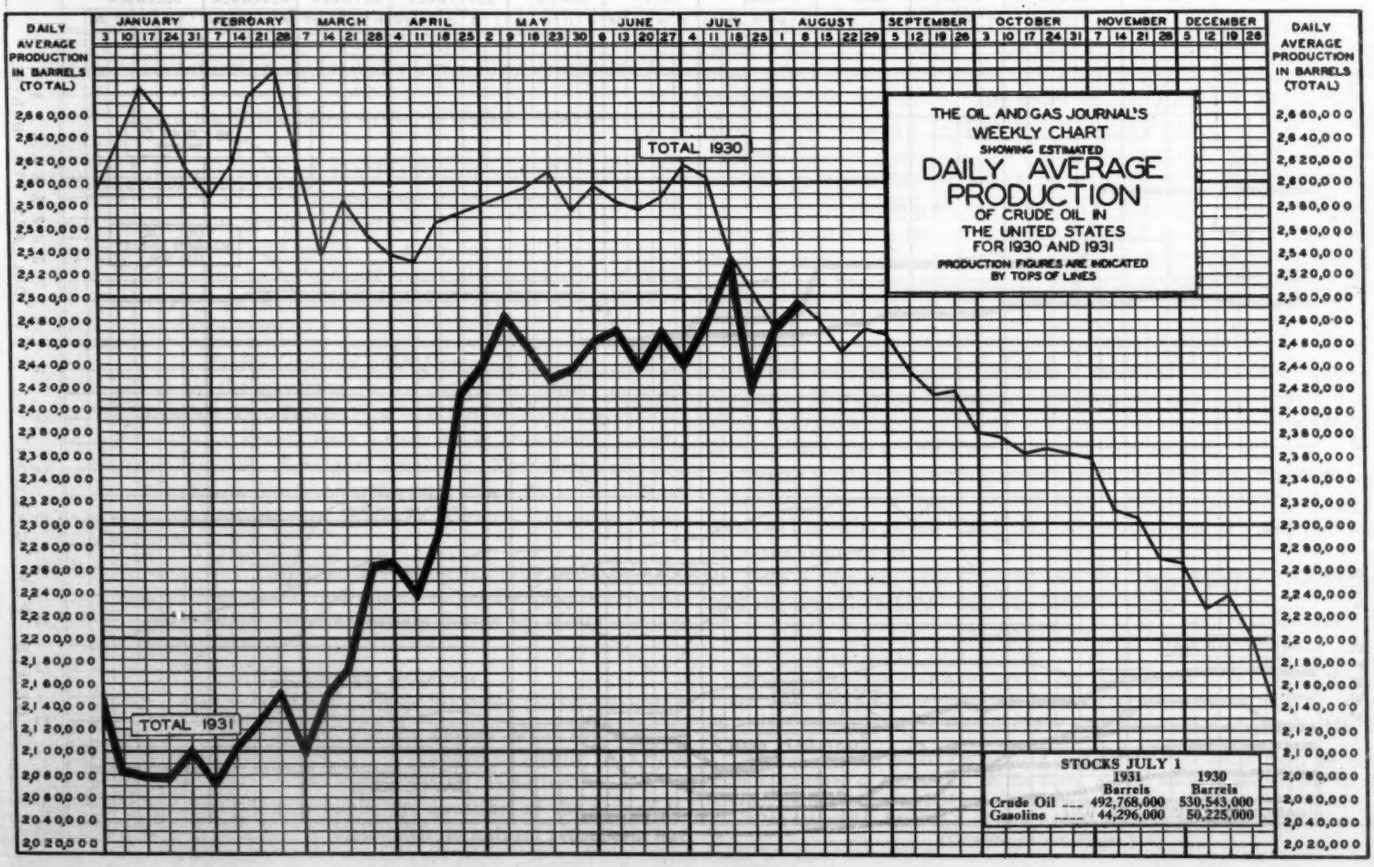
California production was reduced to 490,000 barrels daily during the past week, encouraging operators in that section and strengthening the general situation there.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended August 1 and a comparison with the previous week follows:

	Aug. 1	July 25
Oklahoma—		
Oklahoma City	65,840	111,595
Seminole-St. Louis	133,910	146,015
Remainder of State	224,980	224,035
Total Oklahoma	424,730	481,645
East Texas—		
Kilgore	233,714	212,012
Lathrop	136,996	111,219
Joiner	226,841	181,715
Total East Texas	597,551	504,946
West Texas	206,312	206,002
North Central Texas	79,892	78,881
Texas Panhandle	54,348	55,742
East Central Texas	47,449	42,350
North Louisiana	32,360	33,340
Arkansas	38,630	40,585
Kansas	99,540	97,220
Total Mid-Continent area	1,580,812	1,540,811
Gulf Coast	146,159	149,731
Southwest Texas	64,579	63,496
Eastern	105,000	107,000
Rocky Mountain area	92,873	95,973
California—		
Santa Fe Springs	62,250	62,500
Long Beach	73,500	73,750
Playa Del Rey	24,000	24,000
Elwood	25,750	26,500
Kettleman Hills	60,000	74,000
Remainder of State	255,500	259,500
Total California	501,000	520,250
Total United States	2,490,423	2,477,261

→ **Increase 13,162 Bbls. Daily** ←



Gasoline Prices Continue to Advance

Fractional Increases in Oklahoma Quotations. Bright Stocks Stronger. Refiners Consider Purchases of East Texas Crude Oils

By C. O. Willson

With most of the refiners in Oklahoma and other Mid-Continent areas sold up for the first half of August, spot quotations on the principal grades of domestic gasoline again advanced during the past week. The U. S. Motor grade in which probably 90 per cent of the trading centers, advanced to a low of 3⅛ cents per gallon the first of the week with considerable trading at 3¼ cents and quotations up to 3½ cents. There was little demand for the higher gravities and many refiners had not advanced their quotations on those grades.

Natural gasolines also advanced one-half cent on all grades both in Oklahoma and Texas. Orders received from day to day are absorbing the available output of all grades and the sellers were predicting more advances with any additional price strength in the refinery grades.

Trading in refinery gasolines was not as active as it was the last few days of July. This apparently was due to the fact that buyers had already covered their requirements for the first few days of August and were waiting developments before making additional purchases for August delivery. In fact there are a large number of refiners throughout the Mid-Continent who are sold up for August and will have to keep their plants operating at capacity to take care of their gasoline orders. Their sales departments are only concerned with the movement of other products most of which are moving slowly.

Bright Stocks Stronger

The important change in other products was in bright stocks. Although there have been no general advances by the larger refiners, some of the smaller manufacturers in Oklahoma and other western refining centers have advanced their low quotations and in two cases at least have withdrawn from the market having sold their August output. This strength in the market may end a decline extending over a year and follows substantial advances in the Pennsylvania market. Low cold test Pennsylvania grade bright stock which sold as low as 16¼ cents at Pennsylvania refineries late in June has advanced so that sales were made the past week as high as 22 cents. The low prices of 11 to 14 cents for Mid-Continent bright stocks basis Oklahoma has attracted considerable export and domestic buying and the stock situation has improved. Manufacturers are confident that the product, particularly the low cold test grades will show improvement during the fall and winter months.

Future Uncertain

The future of the gasoline market and to a lesser extent other refinery products is dependent on developments in the crude oil end of the Mid-Continent oil business over the next few days. At this writing it was not definitely known what the action of the Governor of Oklahoma in shutting down wells within the State would mean in regard to available crude oil supplies.

This development which has been hanging fire for a week may have important bearing on the refinery gasoline market over August. If the governor is successful in shutting in a substantial quantity of production in Oklahoma, if only for a period of a few days, it will result in a shortage of gasoline which in turn should be reflected in additional price advances. Practically all refiners in Oklahoma get their entire crude oil supply from fields within the State. If a large part of this supply should suddenly be shut off, it would mean a corresponding decline in gasoline output at many plants. Most of the larger refinery operators and a few of the smaller concerns have crude oil in storage but in other cases they are operating from day to day without any reserve supplies. In the case of refiners with crude oil in storage it is doubtful if they would be willing to deplete this reserve at present prices and will curtail their operations until some arrangement can be made for additional crude oil. Gasoline inventories are also exceptionally low at most plants.

In general, this possible development means that Oklahoma refiners will have to make arrangements to purchase from other refiners. Coming at this time, when the gasoline market occupies a

(Continued on Page 110)

REFINED MARKET BAROMETER

General improvement in refinery gasolines was noted in all refining areas during the past week. Important price advances materialized in several areas while in other sections price cutting in tank car sales was ended. Natural gasolines advanced rapidly both in the Mid-Continent and California. Reductions in bunker and Diesel oil prices along the East Coast were the principal developments in the heavy oils which were not reported active in any areas. The upturn in steam refined stocks and bright stocks in Pennsylvania and eastern markets continued both for domestic and export movement. A better tone was also apparent in the western oils. No important changes were noted in kerosene. Wax was more active at eastern refineries.

Mid-Continent—Small advance in refinery gasoline prices with larger increases in natural gasolines. Kerosene unchanged. Fuels slow. Better demand for cylinder stocks. Other products unchanged.

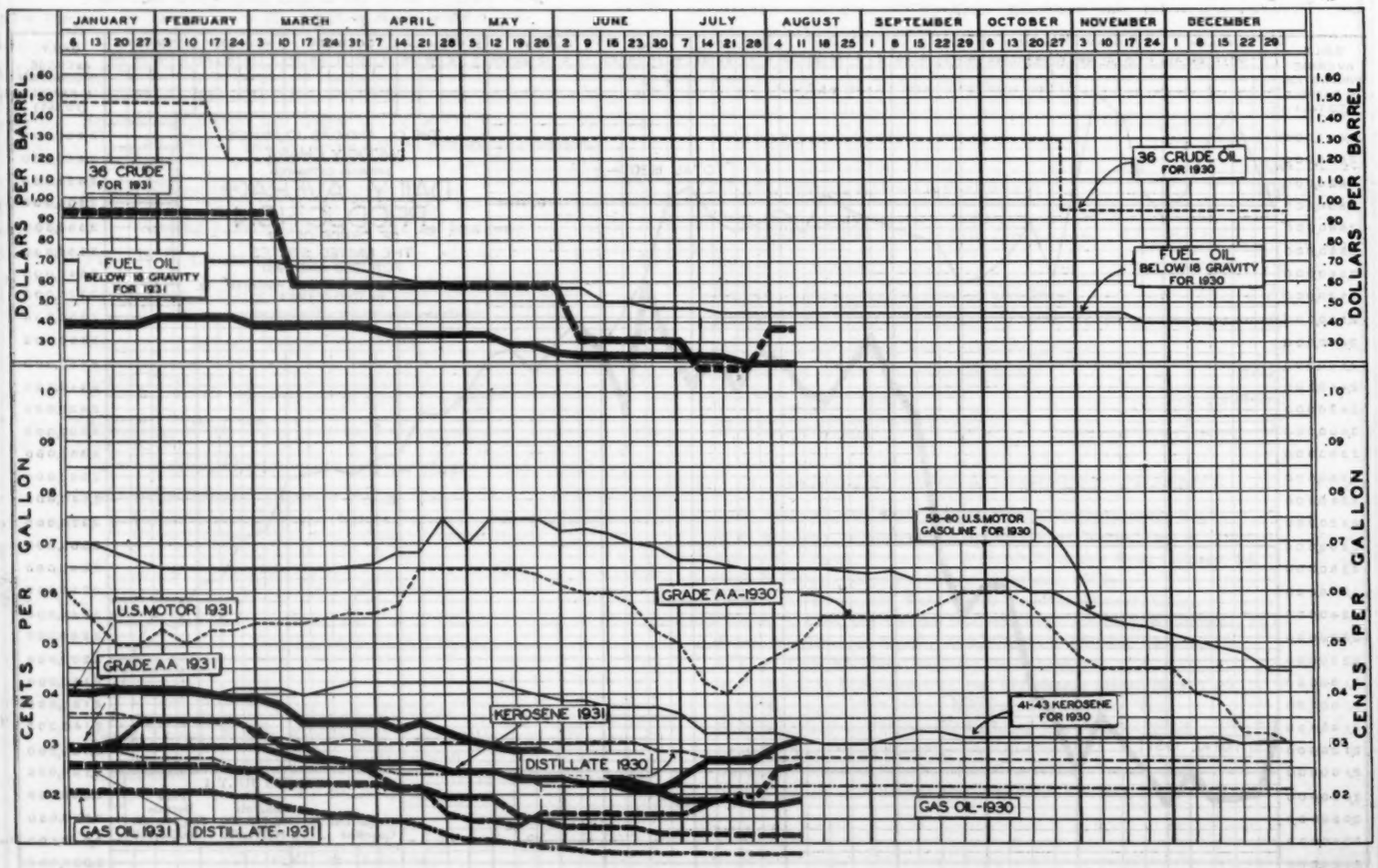
East Coast—Much better tone in gasoline market and prices firm. Bunker and Diesel oil prices reduced 5 cents. Kerosene slow. Runaway market in several grades of steam refined stocks and bright stocks. Gas oil sluggish. Paraffin wax active.

Chicago—Gasoline prices advance. Strong contract demand. Kerosene market firm. Less distress fuel oil offered. Lubricating oils stronger.

Gulf Coast—Gasoline market stronger. Fuel oil prices lower. Better demand for pale and red neutrals.

Pennsylvania—All grades of gasoline and naphtha advance. Kerosene quiet. Steam refined stocks and bright stocks strong and prices continue to advance.

California—Refinery gasoline and natural prices advance. No important changes in other products.



Governor Shuts Down Oklahoma Wells

Martial Law Established in 29 Pools of State With 3,106 Producing Wells Ordered Closed. Troops Are in Control

By Andrew M. Rowley

All oil wells in the prorated fields of Oklahoma, making more than 25 bbls. a day, were ordered shut down on Tuesday afternoon of this week by Gov. William H. Murray who, at the same time, established martial law for a distance of 50 feet around each well in the 29 fields affected by his order. National Guardsmen entered the Oklahoma City Field shortly after noon Tuesday and by 6 p. m. all wells in that pool had been shut down.

The first wells closed down in the Oklahoma City Field were those of the Champlin Refining Co., which had been producing its wells under protection of a Federal Court injunction against the Oklahoma Corporation Commission. That injunction is still in effect as far as the Federal Court is concerned.

Cicero Murray, chairman of the Oil States' Advisory Committee, was appointed a lieutenant colonel in the National Guard and he gave the first order to shut down a well. At the time that action was taken no formal order for the shutdown had been published.

Hoover and Supreme Court Excepted

Brigadier General Charles F. Barrett, adjutant general of the Oklahoma National Guard, was directed to post national guardsmen in the oil fields and the guardsmen were directed to establish and maintain military control against all orders except from the President of the United States or the Supreme Court of the United States. The troops, the order stated, are to be under direct control of the commander-in-chief, who is the governor.

Governor Murray on July 28 stated he would issue the shutdown order unless crude oil purchasing companies in Oklahoma posted a price of $1 a barrel for crude oil in Oklahoma by last Saturday. None of the oil companies complied with his ultimatum. The governor said Tuesday his order was necessary under "the supreme executive power" granted by constitution, in order to:

"Protect the school children of the State.

"Conserve its natural resources and prevent their exhaustion and waste.

"Protect the rights of taxpayers in and to the revenues from such resources.

"Establish the guarantee of the Fourteenth amendment of the United States constitution to independent producers against taking their property 'without due process of law.'

"To establish justice and equity for them; and

"To protect citizens from 'general monopolistic control of their natural resources by corrupt combinations of capital who produce, transport, refine and sell oil'."

Fields Ordered Shut Down

Fields named by the governor in the shutdown order include: Oklahoma City, Allen, Two Sands, Bowlegs, Earlsboro proper, Earlsboro Townsite, Little River, East Little River, Marshall, Lovell, Maud, Mission, Sasakwa, Searight, Seminole, East Seminole, St. Louis, Carr City, South Earlsboro, Konawa, East Earlsboro, West Asher, Wanette, West Seminole, Wewoka, Tatums, Chandler, West Perry and Orlando.

The shutdown order affects 3,106 producing wells in Oklahoma. It is estimated these wells were permitted to produce approximately 383,000 bbls. daily under proration orders issued by the Oklahoma Corporation Commission.

Issue Raised by Governor

The governor indicated very clearly in his press conferences that the conservation of the crude within the ground until the price is such that the State, in taxes received, is justified in letting the crude out of the ground, would be the legal basis of his action.

To that extent he not only raises the question of the sovereign right of the State to deal as it pleases with its natural resources, but also the question of the right of federal courts to step in and prevent the State from so dealing.

The governor declared that he will teach some of the oil company and toll bridge company lawyers a lesson in constitutional law. The order was carefully drafted so that the United States Supreme Court can take original jurisdiction if the lower federal courts refuse to take jurisdiction.

In one of his statements the governor said: "Monopolistic controllers of oil who produce, refine, transport and sell refined products of oil in competition with the oil producer having such monopolistic control destroy the producer who does not have pipe lines, refineries and filling stations.

Ready for Court

"I read in the press very dire threats. Well, they do not scare me. I will go with them to the supreme court of the United States.

"If we are going to have government by injunction, by inferior federal courts, we want to know it. If the gigantic corporations are more powerful than the State and have rights above the citizenship, two and a half million citizens of a sovereign state, we want to know it. If the Eleventh amendment to the constitution of the United States is a nullity, and, if the State does not longer possess sovereign power, we want to know it and I am ready to undergo and suffer all the consequences necessary in contesting their right to government by injunction or their claims that they are superior to the sovereignty of the State, in an effort to uphold the constitution of the United States, protect the natural resources of the State from waste, and to preserve the school lands of the State which Sinclair and his associates are trying to filch from them."

"I know just where I am going. This is a matter I must work out myself and master. I dare not trust it to others. I realize that when I put out the order I will have to go to the supreme court of the United States and I want to be prepared to meet every contingency that may arise. The order will cite statutes and constitutions by sections and number and will name cases that bear on the subject."

The governor has been making a thorough study of the whole problem from two angles, the question of his right to go the extreme limit in protecting the natural resources of the State against what he considers to be waste in draining it out at present prices and the right of the State to regulate its own affairs free from interference by federal courts.

Revenue Big Factor

"Economic waste results from sale of oil at present prices," Governor Murray said, adding, "We'll simply shut them down and if their storage is depleted in six or eight months and prices go to $2 a barrel that's just a result we hope will be obtained.

"With crude oil bringing little return, revenue for the State and schools—there are many school land leases—becomes negligible. We can't let this go on—depleting our natural resources and getting no taxes from them.

"We'll ruin our school lands and the State won't get any taxes and the school children won't benefit."

The Official Order

Governor Murray's order follows:

Whereas, Section 2 of Article 6 of the constitution of the State of Oklahoma vests and provides that, "the supreme executive power shall be vested in a chief magistrate who shall be styled 'the governor of the State of Oklahoma'," and

Whereas, under Section 6 of said article, the "governor shall be commander-in-chief of the militia of the State, except when in the service of the United States, and may call out the same to execute the laws * * *"; and,

Whereas, under Section 8 of said Article 6, "The governor shall cause the

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Oklahoma Wells Average 9.27 Barrels

More Than 20,000 Producers in State Average Less Than 1 Bbl. per Day. Only 784 Make 200 Bbls. or More Daily

By James McIntyre

There are over 60,000 oil wells in Oklahoma. At no time are all of them producing at once. For one reason or another wells, or whole leases, are idle for short periods now and then. The cause may be a temporary breakdown of power; or the wells may be undergoing a cleaning out; or the owners may shut down wells in times like the recent past because, in their case, it was cheaper to keep the oil in the ground than to produce it and put it on the market at the starvation prices for which the East Texas form of mania is responsible.

At the time the report on which this article is based was made out, there were 59,807 oil wells on the active list in the State, and their production was 554,676 bbls. per day. This was an average of 9.27 bbls. per day per well.

TABLE INTERESTING

The accompanying article and table listing wells in Oklahoma according to their production is of especial interest at this time in view of the action of Governor Murray in ordering shut down all wells in prorated areas which produce 25 bbls. or more per day.—A.M.R.

CLASSIFICATION OF OIL WELLS IN OKLAHOMA AS OF JULY, 1931

Class of wells—	No. of wells	Production per day (bbls.)	Av. production per well per day (bbls.)
Below 1 bbl.	20,078	13,701	.68
1-bbl. wells	7,435	9,320	1.26
2-bbl. wells	9,281	21,058	2.27
3-bbl. wells	2,867	9,035	3.16
4-bbl. wells	602	2,729	4.53
5-bbl. wells	5,170	30,444	5.89
6-bbl. wells	1,684	10,365	6.15
7-bbl. wells	3,970	28,894	7.28
8-bbl. wells	1,213	10,441	8.61
9-bbl. wells	1,063	10,279	9.67
10 to 14.99-bbl. wells	1,041	14,083	13.53
15 to 19.99-bbl. wells	983	16,645	16.93
20 to 24.99-bbl. wells	492	12,068	24.53
25 to 29.99-bbl. wells	97	2,527	26.05
30 to 34.99-bbl. wells	491	14,888	30.32
35 to 39.99-bbl. wells	15	555	37.00
40 to 44.99-bbl. wells	557	23,797	42.74
45 to 49.99-bbl. wells	36	1,694	45.06
50 to 59.99-bbl. wells	656	35,535	54.17
60 to 74.99-bbl. wells	691	47,205	68.31
75 to 99.99-bbl. wells	335	27,526	82.17
100 to 109.99-bbl. wells	266	31,867	119.80
200-bbl. wells and over	784	180,020	229.62
Total	59,807	554,676	9.27

The accompanying table, which breaks up the wells into classes of below 1 bbl. per day per well; from 1 bbl. to 10 bbls. and so on upward to wells of more than 200 bbls. per day per well, indicates that with the exception of a relatively few wells in flush fields the average production per well in Okahoma is low. If we take the production of Oklahoma City, which was 168,613 bbls. per day when the table was made up, together with the output of South Earlsboro and Wewoka Townsite out of the picture the remaining wells in the State produced only 6.35 bbls. per day per well. If we go further and cut out the production of the 100-bbl. class of wells including the 22 wells in West Chandler, in Lincoln County; the 154 wells in East Earlsboro, Seminole County, and the 90 wells in Carr City, Pottawatomie County, we have left an average of only 5.85 bbls. per day per well.

The fields named contain the largest wells in the State at this time. Just below them in the 75 to 99-bbl. class are 40 wells in the Marshall Pool in Logan County producing 3,081 bbls., an average of 77.02 bbls.; 14 wells in the new pools in the Perry district in Noble County and other scattered spots in that general area, producing 1,070 bbls., an average of 76.42 bbls.; 109 wells in Konawa, Seminole County, making 8,461 bbls., an average of 77.62 bbls.; 82 wells in the Asher Pool, Pottawatomie County, producing 6,790 bbls., an average of 82.80 bbls.; 90 wells in the Mission Pool, Seminole County, producing 8,124 bbls., an average of 90.26 bbls.

Decline of Prominent Pools

It may come as a surprise to many oil men to know that the famous Seminole Pool in Township 9-6, Seminole County, is down to an average of 55.69 bbls. per well; East Seminole to 47.5 bbls. per well; Earlsboro to 66 bbls.; Searight, 57.37 bbls. Bowlegs, 51.88 bbls.; Little River, 69.97 bbls.; East Little River, 68.65 bbls.; St. Louis-Pearson, 42.87 bbls.; Maud, 18.16 bbls.

The Sasaskwa Pool in Pottawatomie County averages 55.48 bbls. per well per day.

The whole Greater Seminole area, which includes all the wells in Seminole, Pottawatomie and Hughes Counties, with 4,616 wells, produced 366,197 bbls. per day, an average of 79.33 bbls. per well per day.

The once important Cromwell Pool is down to 14.08 bbls. per well and the old Wewoka Pool, which was responsible for the development of the Greater Seminole area is down to 14.10 bbls. per well.

The Burbank Pool and the Healdton and Cushing Fields once made oil history. At this time Burbank wells average 7.09 bbls. per day per well; Healdton 5.99 bbls., and Cushing, 5.89 bbls. The 1,779 wells left in the Glenn Pool (which takes in all the territory in Townships 18-11, 18-12, 17-11 and 17-12) average 3.06 bbls. The field once produced 120,000 bbls. per day.

In the Southern Fields

The 5,404 wells in the Healdton-Hewitt district, including Healdton, Hewitt, Fox, Loco, Milroy, Hambro, Robberson, Brock, Sholom Alechem, Tatums, Graham and Madill, situated in Carter, Marshall, Jefferson, eastern Stephens, and Garvin Counties, in the southern part of the State, average 8.27 bbls. per day per well, and the 1,412 wells in the Duncan district, including north Duncan, south Duncan, Walters, Comanche, Cement, Kilgore, Knox, and Township 6s-6w, in Stephens, Caddo, Garvin and Jefferson Counties, average 9.14 bbls. per well.

Western Fields

In the western fields where the Tonkawa and Garber Pools are situated, 1,871 wells average 11.29 bbls. per well. Included in this are wells in Kay, Noble, and Logan Counties, Tonkawa is down

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California Oil Sales Agency Changes

Lionel T. Barneson Succeeds Ralph B. Lloyd as President. Neal H. Anderson Chosen State Oil Umpire

By L. P. Stockman

LOS ANGELES, Calif., Aug. 5.—At a meeting of the board of directors held in Los Angeles Wednesday, August 5, Lionel T. Barneson, president of the Bankline Oil Co., was elected president of the California Oil Producers Sales Agency, succeeding Ralph B. Lloyd, who was named chairman of the board of directors. The directors reluctantly accepted the resignation of Vice President Neal H. Anderson, one of the organizers of the sales agency and chairman of the membership campaign. In submitting his resignation, Mr. Anderson, who has just been elected state oil umpire, issued a statement that "while the most complete co-operation will be maintained between the office of the state oil umpire and the Oil Producers Sales Agency, my duties in the consolidated offices of the two districts will require all of my time, hence I deemed it advisable to present my resignation to the board of directors of the agency.

"There are still some companies not participating in the statewide oil conservation plan. Through their sense of fairness and the duty they owe to the public and to the oil industry even without legislation it is to be hoped that these companies may be prevailed upon to join the movement for the stabilization of the oil industry. The press, leaders of union labor, industrial and mercantile groups all should have the unqualified approval of the general public in the efforts they have made to create and maintain public sentiment in favor of stabilized prices in the oil industry and for their aid during the past few months of the formative period in the organization and development of the oil producers sales agency. This group of independent oil operators forms the very backbone of the industry in this State and their prosperity means statewide prosperity. They should and doubtless will continue to have the support which they so well merit."

Lionel T. Barneson
President, California Oil Producers Sales Agency

President Barneson of the Oil Producers Sales Agency after his election said:

"The oil situation has not yet clarified sufficiently to make any definite statement of future policies for the agency except to say that there will be no immediate change. I appreciate the honor the directors have conferred upon me. I realize that means lots of hard work and that my own efforts and those of the directors can be successful only if we have the whole-hearted co-operation of the public, the press, independent oil producers and refiners in our attempt to stabilize the oil industry of this State. Continuing effort for price stabilization of retail gasoline sales is of paramount importance if we are to attain the object of the agency in securing for its members a market for their production at a price which will give them a reasonable profit. Many of our local problems are approaching solution through the work already accomplished by my predecessors in the organization and the management of the agency.

"The general public, perhaps, does not realize the many factors in this industry which they have been endeavoring to harmonize into one working unit. Men of the type of Ralph B. Lloyd, our former president, Rush M. Blodgett and Neal H. Anderson, vice presidents, have unselfishly and in the broadest public spirit devoted almost continuous attention to the problems of the agency since its organization a few months ago. Our directors have rendered equally excellent service and it is to be hoped that the selfish interests of a few men concerned only with immediate personal financial benefit will not be allowed to retard what I believe to be a great forward step in the stabilization of the oil industry and concurrently the stabilization of many other lines of business.

"Under present conditions in the oil in-

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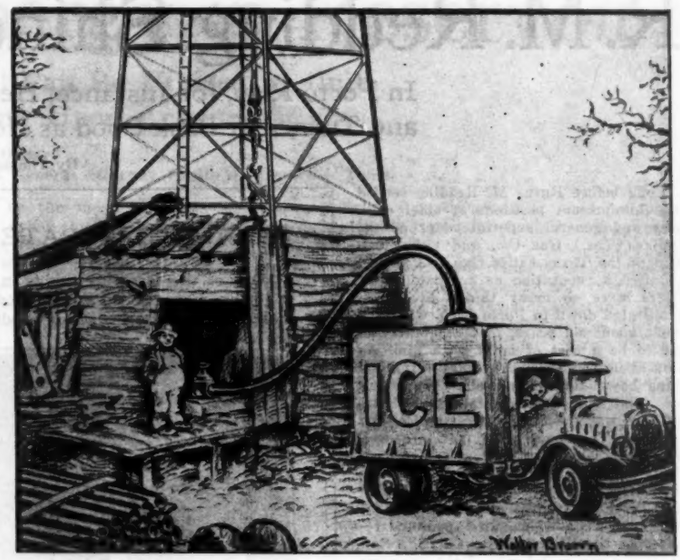
Dry Ice May Stimulate Drilling By the Petroleum Industry

By Robert Locke Hazlett

The oil industry has given birth to a new allied trade, the production of natural dry ice through recovery of carbon dioxide gas (CO_2). This young business promises to bring in a new era of drilling. Dry ice, carbon dioxide solidified under great pressure, is 15 times as efficient as water ice, and has a world-wide potential market. The product sells for $100 per ton. Ten million cubic feet of CO_2 makes 1 ton of dry ice.

Discovery of carbon dioxide in drilling for oil formerly occasioned disappointment, for the gas is noninflammable and was regarded as worthless. In the last 30 years millions of tons of carbon dioxide have been blown into the sky in the Tampico district in Mexico. Now the gas is being compressed into dry ice, and Mexican oil is the fuel that provides the power for the compression. The product is used to refrigerate tropical fruits on long railroad shipments.



An artist's conception of what may be expected if the oil industry goes into the ice business.

The Continental Oil Co.'s well near Walden in Jackson County, Colorado, for a long time was considered a freak and it presented a serious mechanical difficulty to the producers. The No. 1 McCallum, Section 12-9n-79, shot oil and gas out of the hole in flakes, and the oil lay about like yellow snow. On being tested it proved a high-grade, clear crude petroleum and carbon dioxide gas. The well became known as the Continental's "ice cream well."

Later, the Dry Ice Corp. of America contracted with the Continental to build an experimental plant at the well for the separation of the gas from the crude and to manufacture dry ice. The experiments are said to have been successful, and the Dry Ice Corp. is reported to be planning a commercial plant for the production of dry ice at the nearest railhead to the wells.

The largest supply of carbon dioxide at present in the United States is in the Continental's Jackson County holdings in Colorado. The company's four wells on two separate structures have a combined flow of more than 100,000,000 feet of CO_2 per day.

Pioneer in Field

The Fulton Petroleum Co., affiliated with the Carbon Dioxice & Chemical Co., is the pioneering organization in the natural dry ice field. In January, 1921, the Utah Oil & Refining Co. of Salt Lake City, Utah, brought in a well on Farnham Dome, 12 miles east of Price, Utah, Section 12-15s-11e, at a depth of 3,105 feet for 20,000,000 feet of carbon dioxide gas. The well was abandoned. About the same time this company completed a well on the Woodside structure, 45 miles southeast of Price, in Section 12-19s-13e. This well struck a heavy flow of CO_2 gas at about the same depth in the same stratum, the Coconino sandstone. Both wells were on the northern flank of the San Rafael swell. The Woodside well, however, carried a heavy helium content, and the structure was taken over as a United States helium reserve by executive order.

No further work was done on the Farnham structure until 1929, when the late Milo P. Smith, of Salt Lake City, interested the Fulton Petroleum Co. in its possibilities as a producer of ice from carbon dioxide.

The Carbon Dioxice & Chemical Co., of Seattle, Wash., was organized as the manufacturing and marketing corporation for the dry ice, and the Fulton Petroleum Co. contracted for the drilling of the wells. William M. Fulton, president of the Fulton Petroleum Co., became president of the new organization, and Frank Goodwin vice president.

The company's first well, located in Section 12-15s-11e, 400 feet south of the original well drilled by the Utah Oil Refining Co., struck a 15,000,000-foot flow of carbon dioxide gas under 960 pounds pressure at about the same depth in the Coconino sandstone. The pressure from the well is sufficient to change one-fifth of the gas immediately into snow by sending it through an expanding nozzle and shooting it against a solid wall in the "snow room." The snow is compressed into blocks of the dry ice.

The pioneering company met with two difficulties which have been solved by the engineers of the company's plant at the wells. A slight sulphur taint in the gas is refined by sending the impure carbon dioxide through a baffle tower, which solidifies the heavier gas out first. Some difficulty was met in shipping the ice to keep it from evaporating, but a specially constructed box, air tight, durable and light in weight has overcome that.

Used in Soft Drink Industry

As well as making the CO_2 into ice, the Carbon Dioxice & Chemical Co. utilizes the gas in making liquid carbonic acid which finds a ready market in the soft drink industry. The company has made several shipments of both dry ice and carbonic acid.

The carbon dioxide ice cream industry is only in its experimental laboratory stage, but its possibilities are interesting. Here is how it compares with water ice in railway refrigeration for a three-day run:

	Water ice		
	Ice lbs.	Salt lbs.	Dry ice
Original charge	12,000	1,200	1,200
First day	1,995	200	....
Second day	1,950	195	....
Third day	1,750	175	....
		1,770	
	17,695	17,695	
Total pounds		19,465	1,200

Dry ice sells for $100 a ton so that refrigeration by dry ice for the three-day run would cost only $60 as compared to $97.32 the cost of the water ice and salt at $10 per ton. This is an initial saving of $37, but there are other more important savings made by the use of dry ice. There is a difference of 18,195 pounds in weight between the dry ice and the water ice required for the shipment. This weight is paid for at the rate of $1.44 per hundredweight which means that the shipper is paying $262 for the shipment of refrigerating material which would not be necessary if dry ice were used instead of water ice and salt. Add this to the $37 initial saving of dry ice over water ice, and the total saving is raised to $299. This is not all. There is much time and labor spent in the switching and repacking of the refrigerator cars in the three re-icings that are called for by the use of water ice. The original charge of dry ice sees the shipment through in a perfect state of preservation regardless of outside temperatures. Further, the dry ice has no corroding brine to rot the wood and eat away the iron fixtures of the freight car as does the water ice. Instead, carbon dioxide gas by its inherent chemical properties acts as a preservative rather than as a deteriorating agent.

Railroads Offer Big Market

The railway industry presents the greatest potential market for dry ice. The refrigerator car market only awaits the opening of a large and constant supply of carbon dioxide gas to afford the change to dry ice refrigeration. The oil industry is developing this supply, but both supply and market are still virgin.

Another great potential market for carbon dioxide ice is presented by domestic refrigeration. Thermal engineers are now constructing a refrigerator for the home to utilize dry ice. Although the dry ice boxes are only in the experimental stage, they give great promise. By means of pressure valves the cold escaping gas from the ice can be made to freeze meat solid, preserving all of its natural juices, to keep salads and vegetables normally cool and crisp, and, paradoxically, to keep cooked foods steaming hot. This same market includes, as well as the home, meat markets, vegetable houses and flower shops.

The ice cream manufacturers are at present the biggest buyers of carbon dioxide ice. Since the ice leaves no water, the heavy barrels and steel containers of former days in ice cream transportation can be replaced by cardboard cartons. This means a huge saving in freight rates and does away with the returning of the containers. Further, dry ice holds the ice cream at a point far below zero Centigrade affording a sure protection against spoiling. In the shipment of meats and sea foods preserved by dry ice refrigeration there can be no ptomaine poisoning if the foodstuff is fresh at packing.

Carbon dioxide ice owes its superiority to the fact that it will not turn to liquid at normal temperatures, but passes immediately into gas. The gas is odorless, colorless, stainless, and harmless, unless breathed in large quantities. A piece of ice a sixteenth of an inch thick and the diameter and shape of the bottom of a water glass forms a tray for a drinking tumbler at the dinner table. The dry ice keeps the water ice-cold throughout the meal and disappears without leaving a spot on milady's fine linen. This quality makes possible the shipping of small packages of perishable foodstuffs through the mails.

Constant Insulator Against Heat

Another quality of dry ice, equally important, arises from its sublimation prop-

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In this experimental plant, the first of the kind in the United States, more than 30 tons of dry ice is being manufactured daily from carbon dioxide (CO_2) gas produced from Farnham Dome near Price, Utah, by the Carbon Dioxice & Chemical Co., of Seattle, Wash.

R. M. Redding Shines as a Rehabilitator

In Porto Rico, for Instance, He Revived a Dying Gas Company and Turned It Back Good as New to the Delighted Bondholders

By Thomas F. Smiley

Long before Rufus M. Redding settled into his present positions of chief engineer and general superintendent of the Dallas (Tex.) Gas Co., and vice president of the Texas Cities Gas Co., he had acquired a reputation as a rehabilitator. There were so many things to be rehabilitated down in Porto Rico, where he spent about six years, that rehabilitation got to be a sort of habit with him. As soon as he was through rehabilitating one thing he would ask himself, "Well, let's see, what shall I rehabilitate next?"

There was the Porto Rico Gas Co., for instance. The concern had got into deep financial trouble in 1919 and Mr. Redding, who previously had put the plant on its feet and operated it for a group of New York capitalists and thus was familiar with conditions, was appointed receiver by the United States Court in San Juan. Six per cent bonds of the company sold for 10 cents on the dollar and the discouraged bondholders, who had organized a committee to protect their interests, failed to advance any more money.

Mr. Redding's first move was to seek credit at the American bank in San Juan with which he had done business during his previous residence there. The response was a polite but unshakable refusal, not because the bank did not have great confidence in Mr. Redding, but because it had little in the Porto Rico Gas Co. and the likelihood of its resuscitation. Mr. Redding next turned to the local representative of a Canadian bank and here he got a loan of $100,000 on his pledge that he would stick to the job of reviving the gas company till it was finished. The fact that this banker was a Scotchman may make his willingness to provide the needed money all the more remarkable. Then Mr. Redding got $50,000 worth of credit among some equipment manufacturers, who imposed the same stipulation regarding his seeing the job through.

He Saw It Through All Right

Two and one-half years later Mr. Redding turned over to the bondholders $500,000 in bonds and $500,000 in preferred stock for $1,000,000 they had invested originally. The finances of the company now were on a sound basis, the bonds paying the 6 per cent interest for which the coupons called and the preferred stock 7 per cent. Holders of unpaid back coupons on the bonds received dividend-paying common stock for them. This startling change in the condition of the company had been brought about without financial aid from the bondholders' committee.

Mr. Redding was born in 1878 on a farm near Warren, Ind., on the fringe of the Muncie and Marion oil and gas field, and passed his boyhood there, growing up in the atmosphere and the vernacular of the oil country. His name being Redding, they of course called him "Red," and the rubescent appellation followed him into young manhood. After finishing high school at 17 he entered Indiana University, from which he graduated in the chemical engineering course in 1904. To obtain the money needed to get through college he did various kinds of work, including teaching school, farm labor, selling insurance and reporting on a weekly newspaper published in Warren.

Shortly after receiving his degree young Redding got a job as a chemist with the old New Orleans Gas Light Co., which supplied artificial gas. Save for one year with the St. Paul (Minn.) Gas Light Co., which also distributed manufactured gas, he was with the New Orleans company till 1909, leaving it as assistant superintendent. In 1909 he went to Macon, Ga., as general manager of the Macon Gas & Water Co. Upon his recommendation the company's water works was sold to the city. A year later, upon his further recommendation, the gas business was sold to A. B. Leach & Co., who supplied the city with electric light. The net result of these transactions so far as they concerned Mr. Redding himself was that he sold himself out of a job.

But Another Job Was Waiting

In August, 1914, Mr. Redding was engaged by a group of New York men to go to Porto Rico and take over the operation of the Porto Rico Gas Co. in San Juan. This was the beginning of his activities in the field of rehabilitation. Also he was to act as supervising engineer in the construction of a gas plant in Ponce for the City of Ponce Gas Co. and then put it into operation. He was aboard ship bound for Porto Rico when news was received that hostilities had begun in the European war which ultimately was to involve the world. Mr. Redding was in active charge of the gas plants in San Juan and Ponce till the United States entered the war in 1917. Upon this action by his own country Mr. Redding went to New York and entered the War Department's office in that city as an engineer. Most of his time from then until the end of hostilities was devoted to powder plant construction in Nitro, W. Va.

The opening of the World War in 1914 had the effect of sharply curtailing the supply of coal available in Porto Rico, where Mr. Redding needed it every hour of the day to keep his gas plants in operation. The demands upon the coal mines of the United States and other countries underwent a sudden jump, running far ahead of the normal facilities for production. Ocean vessels which in peace time had been employed in commercial shipping were being converted to wartime uses. The business of seagoing freighters that continued in service as such was interfered with seriously by disordered conditions created by the war.

Once an English freighter carrying a cargo of steam coal from Cardiff, Wales, bound for a South American port was caught by German raiders and a prize crew was put on board. Before the Germans could dispose of their prize they were chased by a British cruiser. The crew of the captured boat escaped by running into the harbor of San Juan, a neutral port, where under the rules of war it was interned for several months with its 5,000 tons of coal.

Fast Work Needed

While the boat lay in the harbor, Mr. Redding worked rapidly to get possession of its cargo, which he needed desperately. He acquainted the Secretary of War's office with the situation and eventually obtained authority to commandeer the cargo "for the public good." When at last all the military and naval tape had been unwound the Porto Rico Gas Co. was within 24 hours of the point at which its last lump of coal would be tossed into the retorts and then—a shutdown and cessation of service.

Arrangements were made promptly to take the KD-3, as the Germans had listed the captured vessel, from the spot where it lay at anchor to the wharf for unloading. As the boat was being towed to the wharf an American passenger boat, carrying as passengers an English captain and an English crew, arrived from New York. The English captain had been sent to Porto Rico by his government to take over the interned steamer with its load of coal and to take it to Nova Scotia. He fumed and wanted to argue the question of ownership. Mr. Redding, however, armed with impressive looking papers from Washington, D. C., was too busy for controversy and he proceeded at once to prepare to unload the coal while the choleric British officer looked on. Acute as was the gas man's situation, he was not unmindful of the other's dilemma and he turned the Englishman's gloom into something like joy by promising to leave in the hold 1,500 tons of the coal.

While all this was going on a four-masted American schooner sailed into the harbor bringing a load of coal for the French-owned railroad in Porto Rico. This was gas coal from West Virginia and it had been contracted for a year before. It was precisely the coal that Mr. Redding wanted. He and George Villiard, vice president and managing director of the railroad, were neighbors and personal friends.

Let's Swap

"George," said Mr. Redding, "I've got some good steam coal, such as you need. You've got some good gas coal, such as I need. Let's swap."

The railroad man agreed and another crisis was passed.

Providence did not always send a ship load of coal to save the day. Sometimes the manager of the gas properties had to save it himself. Once he did it by digging out an ancient Spanish schooner that had been junked on the beach and utilizing its timbers as substitute for the coal he could not get. The wood from the old vessel was put in the retorts and carbonized. Enough gas thus was made to keep the gas plant in operation till a supply of coal was again available. The charcoal left as a by-product of the process was shipped to other cities, where it was used for household purposes. The profits from these sales of charcoal were sufficient to wipe out the expense of exhuming and cutting up the old schooner.

In the devious program of bringing run-down equipment and obsolete methods up to modern standards the charcoal episode was only one of many which grew out of conditions that called for initiative and ingenuity. Another had to do with a tannery which was operated on the property adjoining the San Juan gas plant. This tannery imported its tan bark (quebracho bark) from Venezuela, South America. After the bark had been used in the tanning process it was thrown into the bay. This practice caused many complaints, with the result that the port authorities of San Juan ordered its discontinuance. The owners of the tannery told their troubles to Mr. Redding, who said, "Now don't worry about it. You just dump that used bark over on our property. I believe we can dispose of it some way." The tannery operators were profuse in their expressions of gratitude and hoped the plan would not prove an imposition on their neighbor.

Forthwith Mr. Redding mixed the bark

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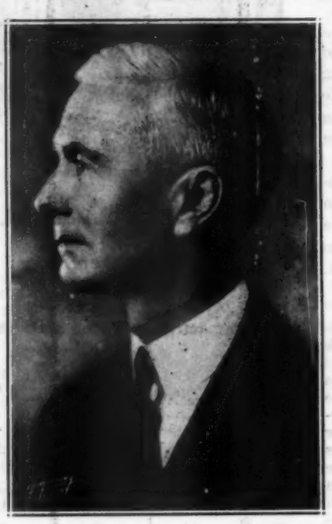
RAISING GAS RATES WITHOUT A ROW

One of the arresting things in Mr. Redding's experience as a gas company manager in Porto Rico is the manner in which he was treated when rising costs of production made it necessary to charge more for gas. A common experience of gas companies in some parts of the United States when faced by the same necessity is to be subjected to a barrage of accusations and innuendoes designed to make the company appear only a little higher than the pickpocket and the second-story worker.



R. M. Redding

Mr. Redding laid before city officials a clear statement of what it cost to produce the gas and what must be obtained for it in order to do business at a reasonable profit. Instead of scoffing at his statement they studied it. Instead of assuming that he was setting a trap for them, they received him as a business man and proceeded on the theory that a gas company was subject to the same economic laws that apply to commercial enterprises generally. When he had made out his case — and he saw to it that he had a case before he appeared before them—he was granted the increased rate without wrangling. He was not harassed by that familiar type of political officeholder who loves to appear in the role of "defender of the people's rights," regardless of whether anybody is trying to invade those rights or not.

And when the increased rate had been approved officially the newspapers did not pretend to see in it a "gross betrayal of the taxpayers." On the contrary the press, like the municipal authorities, recognized the justice of the higher gas rates and said so, commending the company for its careful management and the city authorities for their fairness.

Fine fishing is not the only nice thing about Porto Rico.

Conservation of Energy in Reservoir

Expulsive Force in Oil Pool Can Be Utilized in Unit Operation Without Infringing Upon Anyone's Rights

By Earl Oliver*
Prepared in Collaboration with W. P. Z. German, General Attorney, Skelly Oil Company, Tulsa.

In every virgin oil and gas pool are stored three things of value to the operator: (1) oil; (2) gas, and (3) energy, or expulsive force, resulting from overburden and hydrostatic head, either or both. This third element is important only to the extent it is controlled and utilized in expelling oil and gas from the reservoir rock in which they are contained into the well of the operator. It is responsible for the so-called migatory characteristic of oil and gas that has caused courts to fasten upon those products weird and impractical principles of ownership when as a matter of fact they would be, in themselves, and without this force, no more migratory than innumerable other objects that are the subject of definite ownership. They would lie dormant and unmoved in the minute pores of the reservoir rock except for the operation of this force. Furthermore they can be caused to move in any direction by controlling and directing it.

The purpose of this article is to show that this third element in the reservoir is something separate and apart from the gas content of the reservoir; that it can be enjoyed and fully utilized without in any manner appropriating or interfering with the right of the gas owner to full use and enjoyment of his product; and finally that, unlike oil and gas, it should be conserved for the use and enjoyment of all owners in common rather than attempting to apportion it among them as individuals. It is a status to be conserved rather than an object to be divided.

Gas Owner and Oil Owner

Utilization of it does not require appropriation of the gas. Neither does it place any such burden or restriction upon the gas owner as would entitle him to any special emolument for its use. Proper regulation would require nothing from him that is not also required in exactly the same form from the oil owner and it would require nothing from either of them that is not an ordinary incident to the ownership of any property, namely, that they shall not so utilize their property as to interfere with the enjoyment of others entitled to like rights.

Application of the term "gas energy" to this force is an unfortunate misnomer in that it is responsible for causing the general misunderstanding that this force is inseparable from the gas itself and for that reason the gas owner has some peculiar right to it or to dissipate it as he may wish. On the contrary it arises out of the influences quite apart from the gas and which act upon the gas in like manner as they act upon the oil. Not only will the gas owner not be injured, but, like the oil owner and society as well, he will be vastly benefited by efficient utilization of this force in contrast to its present ruthless dissipation.

From its beginning in 1859 to the present time the oil industry has been wholly dependent upon the operation of this force for the production of its oil and gas but it has given such little thought to its efficient control and direction that it has left in the reservoir from 50 to 90 per cent of its oil content and has produced the remainder under a condition of constant fluctuation and instability. The oil industry has been mastered by, instead of mastering, this force of nature. It has let the rate at which this force could be depleted, rather than economic demand, determine the rate of oil and gas extraction.

Plates Are Instructive

The facts we are attempting to demonstrate are brought out on the accompanying plates.

On Plate 1 is illustrated a typical virgin oil and gas deposit. These fluids are found together in the virgin pools under high pressure. What caused the pressure is not always clear. Various relationships of hydrostatic head and weight of overburden are considered to be the most important factors responsible. In any event the pressure usually amounts to 40 pounds for each 100 feet the pool is located below the earth's surface. Thus if it is 1,000 feet in depth the original rock pressure, as it is called, is around 400 pounds. If the depth is 6,000 feet the rock pressure before depletion is 2,400 pounds.

This reservoir pressure has certain marked effects on the reservoir's contents. In the first place it compresses the gas so that at 5,000 feet with 2,000 pounds pressure gas occupies in the reservoir less than 1 per cent of the space it would occupy at atmospheric pressure. Since liquids, unlike gases, are practically noncompressible, this pressure does not reduce the space occupied by the oil and water but it does influence characteristics of the oil content by increasing the amount of gas that will dissolve in the oil, and thereby increases the oil's fluidity. Recent investigations suggest that under certain circumstances the amount of gas that is contained in solution in the oil in the reservoir, under pressure, is not materially less per unit of space than the amount of gas contained in a like unit in the free gas portion of the reservoir.

This expulsive force or energy, therefore, is the resulting weight of this overburden combined with the hydrostatic head that exists now or may have existed in the past.

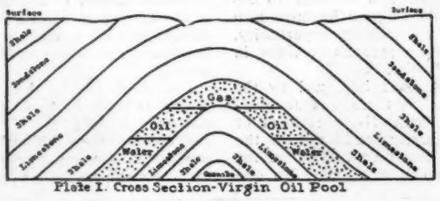


Plate I. Cross Section-Virgin Oil Pool

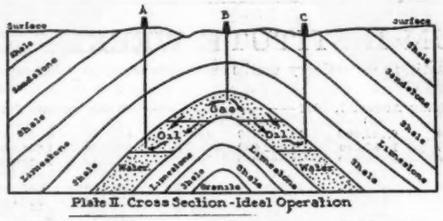


Plate II. Cross Section-Ideal Operation

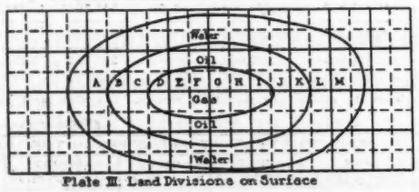


Plate III. Land Divisions on Surface

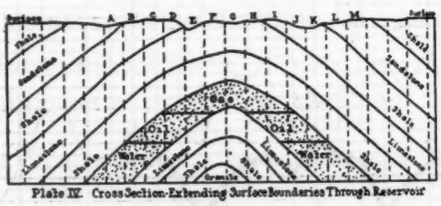


Plate IV. Cross Section-Extending Surface Boundaries Through Reservoir

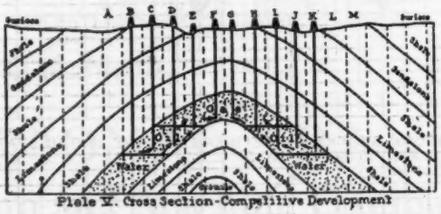


Plate V. Cross Section-Competitive Development

Forces From Two Directions

In like manner, if, as sometimes occurs, the underlying water is under hydrostatic head so that it will move forward as resistance is decreased, then as "A" and "C" are opened this water column will also force oil ahead of it into wells "A" and "C." Under these circumstances forces in the reservoir work from two directions driving oil ahead of them toward the outlets provided.

This the forces contained in the reservoir are controlled and utilized in expelling from the sands both oil and gas and directing their delivery through wells "A" and "C." This oil and gas is then divided among the owners as their several interests may appear from the calculation that has been made of the relative oil and gas content of their several tracts of land. This is not a consolidation of title. It is merely a consolidation of operations for the more efficient extraction of each owner's share of oil and gas.

To make sure that the maximum quantity of gas and oil are eventually extracted from the reservoir, gas delivered from wells "A" and "C" or purchased elsewhere may be reintroduced into the reservoir through well "B"; in which case, of course, the owners of gas delivered from wells "A" and "C" would merely sell their gas to the common owners in the pool for reinjection. Eventually, after the oil content has been largely depleted, air would be injected into the reservoir through well "B," thereby driving out the remaining gas content. Under these circumstances for ideal operation the reservoir content should be extracted only through wells "A" and "C" and the only use to be made of well "B" would be for reinjection of gas or air to maintain the desired pressure for driving force, as well as to maintain the highest possible degree of fluidity of the oil content.

A Wasteful Method

It is obvious from this diagram that if well "B" were opened so that the reservoir content could escape through it that the expulsive force in the reservoir would be dissipated without doing work in oil recovery. Oil would be left remaining in the sand without the necessary force available to drive it through the pores to the mouth of the well. Furthermore oil from the oil portion of the sand would be drawn into the pores of the dry gas sand and be lost to recovery through adhering to the walls of the pore spaces. Laboratory tests indicate that under the wasteful method last described in which energy would be permitted to escape through well "B" more oil would be lost to recovery by adhering to the walls of the pores than would be recovered.

The ideal operation, therefore, is to produce the oil and gas content of the reservoir through wells "A" and "C" located on the oil content portions of the reservoir while at the same time pressure is maintained in the reservoir by injecting gas or air into the reservoir through well "B." Because of its obvious advantages this method of developing and operating oil pools would become generally adopted except for certain principles of law that became fastened upon the industry by an old Pennsylvania decision when the facts just related were unknown.

(Continued on Page 106)

*Chairman A.I.M.E. Unit Operation Committee.
This is the third of a series of articles on stabilizing the petroleum industry. The first was published in The Oil and Gas Journal, July 23 and the second July 30.

There Is Only One Cause for Low Prices

Improvement Will Come Quickly When East Texas Operators Stop Selling Production Without Regard to Price Received

By Andrew M. Rowley

Agitation against present low crude oil prices is futile as long as producers are willing to sell their product at the low prices. It is conceded the present schedule is ridiculous in the light of operating costs; that production so far this year is more than 50,000,000 bbls. below the same period of last year while consumption is but slightly less; and that higher prices are necessary before the industry can begin to show any profits from its business.

Prices are controlled by supply and demand. That old law is just as potent now as it ever was and there is no way to circumvent it. Efforts to have an embargo declared, a tariff enacted or other such remedies applied may all tend to aid the situation to a slight extent in so far as they would reduce the supply, but they all overlook the real cause of present low crude oil prices.

The extremely low price schedule now in effect is due entirely to the fact East Texas operators sold and are selling their production at ridiculously low prices.

It is a business axiom that any product placed on the market to an extent of about 10 per cent of the demand will control the market price of that product. As long as East Texas producers are willing to accept 20 or 25 cents a barrel for their high gravity oil, the production and prices in that area will control to a very great extent the price schedule in all other sections of the United States where East Texas crude and gasoline made from East Texas crude enter the markets.

Purchasers Not to Blame

Purchasing companies cannot be blamed for buying all the East Texas crude they can at the low prices the producers are willing and anxious to accept. They would be poor business men if they passed up such an opportunity. The same situation prevails at times in all other commodities.

We all know what happened to the wheat market when there was an oversupply of that grain. Every resident of the South is entirely familiar with the agitation which has been carried on for years to reduce cotton acreage. No one should be more familiar with such conditions than the residents of East Texas. I have been through that territory many times long before oil was discovered there or even dreamed of by the farmers and have seen watermelons rotting in the fields because the price was so low it did not pay to even gather the melons. An especially large peach crop in the same area brings the same condition, peaches being so cheap it did not pay to pick them.

These conditions regarding the agricultural industry are well known throughout the United States and to all government officials. Then why should there be anything sinister or mysterious about low crude oil prices when more than a half million barrels a day of high grade oil is offered purchasers at 20 or 25 cents a barrel?

One of the banes of the petroleum industry is price cutters. If some individual buys a tank car of gasoline, spots the car on some siding and sells the product at a price below the market in that section, he has a ready sale and many rush to the siding to obtain the benefit of the bargain prices. Little thought is given to the fact that the seller has little or no overhead expense; that he does not dispense the free service of air, ice water, cleaning the windshield and windows and the other courtesies a motorist has become accustomed to receive.

What is the result? Other gasoline stations in the city or town are forced to reduce their prices to meet the competition from the fly-by-night salesman, even though they sell the gasoline at an actual loss. They feel they must retain their customers in order to keep in business.

Other Areas Affected

So it was when producers in East Texas, many of them entirely unfamiliar with the oil business, flooded the market with crude oil and sold the product at prices below the cost of production. Buyers naturally were attracted by the cheap prices and the high gravity of the crude. The quantity of crude thrown on the market in East Texas lessened the demand

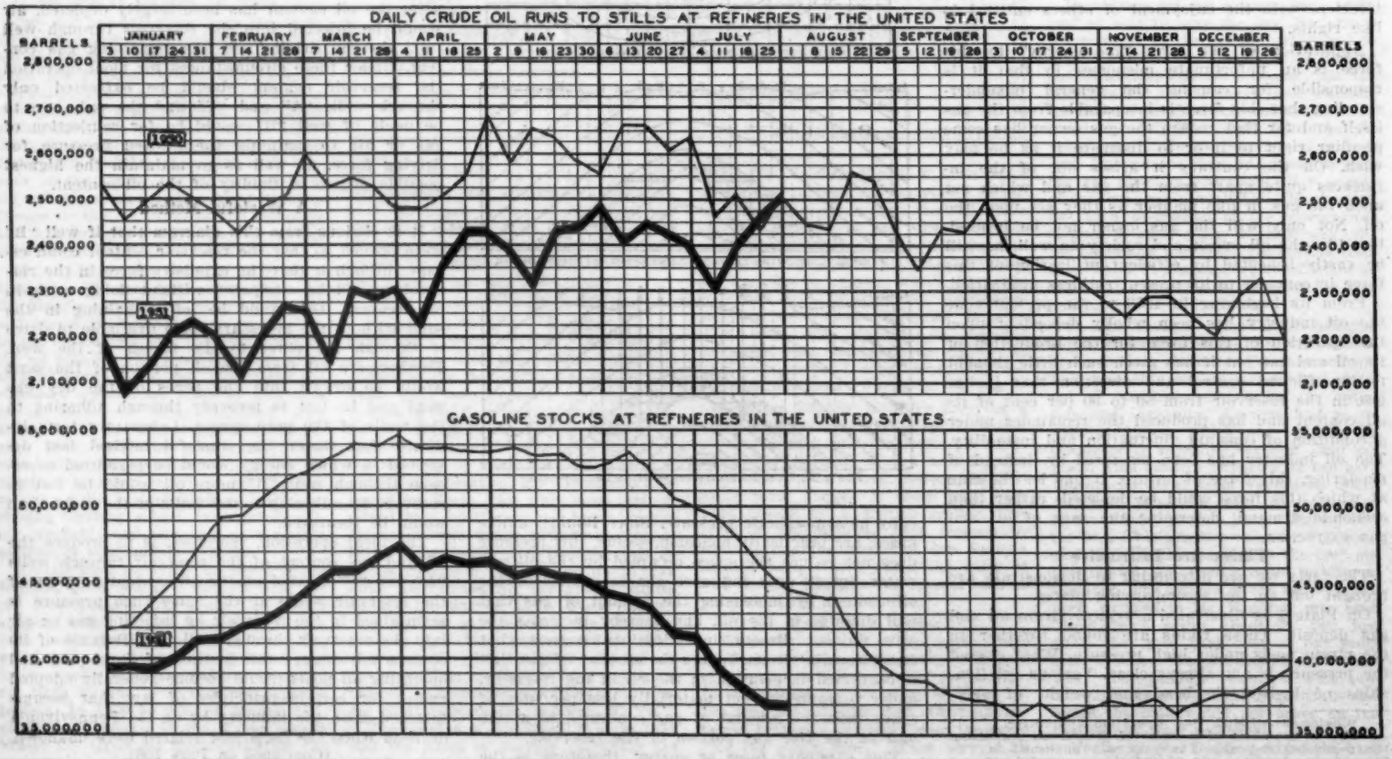
(Continued on Page 107)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending August 1.

	Week ending August 1, 1931				Week ending July 25				Week ending August 2, 1930			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	452,700	6,103,000	10,362,000	100.0	483,100	6,489,000	9,576,000	100.0	488,100	7,242,000	10,084,000
Appalachian	91.8	108,400	1,282,000	1,422,000	91.8	117,600	1,338,000	1,420,000	91.8	81,000	1,494,000	1,010,000
Indiana, Illinois, Kentucky	98.9	339,400	5,525,000	3,994,000	96.6	334,100	5,483,000	3,847,000	99.6	285,400	7,069,000	4,387,000
Oklahoma, Kansas, Missouri	89.6	276,100	2,726,000	5,241,000	98.6	296,200	2,840,000	5,160,000	89.9	261,600	3,671,000	4,730,000
Texas	91.3	503,200	6,650,000	10,696,000	91.3	538,000	6,822,000	10,622,000	90.4	561,600	6,737,000	10,141,000
Louisiana and Arkansas	98.9	182,300	992,000	2,882,000	98.9	183,000	960,000	2,811,000	96.8	157,900	1,741,000	1,938,000
Rocky Mountain	89.3	46,000	1,565,000	826,000	89.3	59,400	1,676,000	829,000	93.6	52,100	2,400,000	1,204,000
California	96.5	473,200	11,899,000	97,953,000	96.5	502,700	11,681,000	98,528,000	99.3	569,000	13,746,000	106,147,000
Total United States	95.0	2,381,300	36,742,000	133,386,000	94.7	2,514,100	37,289,000	132,793,000	95.7	2,456,700	44,100,000	139,641,000
Texas Gulf Coast	99.8	395,100	5,524,000	7,445,000	99.8	393,700	5,656,000	7,347,000	100.0	418,000	5,484,000	7,049,000
Louisiana Gulf Coast	100.0	117,400	851,000	1,892,000	100.0	116,700	815,000	1,864,000	100.0	112,400	1,382,000	1,098,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1931 based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above tables.

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PRODUCING REFINING PIPELINE ENGINEERING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle.

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FOREDOOMED TO FAILURE

Governor Murray's idea of helping the oil producer and the State's revenue by executive order is foredoomed to failure.

Only a fraction of Oklahoma's oil is consumed within the State but all of it must meet the price fixed by the world market.

Oklahoma oil at a dollar a barrel by gubernatorial fiat would find no buyers with East Texas oil at 20 cents and Kansas and other Texas oil at 50 cents.

Oklahoma refiners dependent upon Oklahoma crude would find themselves forced out of the picture because they could not compete with outside refiners using cheaper oil.

With no market for Oklahoma oil at a dollar a barrel producers would be forced to shut down and the State would get no production tax whatever.

An example of what happens in a conflict between official price fixing and operating conditions is shown in the closing down of The Texas Company's refinery at Cody, Wyo., which had been trying to operate on crude from government-owned land in the Oregon Basin.

When The Texas Company contracted with the Cody Petroleum Company for oil from that tract at 53 cents a barrel the Secretary of the Interior refused to approve the contract unless it provided for a price of not less than 85 cents. Although the price has since been forced down to 60 cents it was found that the industry's present condition does not now warrant the operation of the plant and it has been obliged to close.

That is the economic answer to the governor's well-meant but impractical proposal.

The legal aspect may be left to the United States Supreme Court which assuredly will be immediately invoked upon any actual attempt by the governor to shut down production by force.

It requires no stretch of the imagination to anticipate the short shrift that august body would give to this extraordinary executive enterprise.

But even before it reaches that point the State courts might have something to say. The popular notion, which seems to be shared by the governor, about the use of the state militia to enforce executive ukases may prove to be greatly exaggerated.

Oklahoma has had some spectacular examples of the employment of the state troops in unusual cases which may have encouraged this notion, but it has also had very clear decisions that the militia is subject to the civil power and answerable thereto for its acts regardless of military orders.

That responsibility to the civil power, essential in a popular form of government as a protection for the people, assures the oil industry its day in court against arbitrary action.

So, however well intentioned, the governor's proposal is not likely to get very far, economically or legally.

Meanwhile the effect of his announcement has probably been almost exactly opposite to what he was seeking.

Oil men, alarmed by his threat, simply have been marking time since he came out with it. If any further price changes were being considered they must have been checked by the uncertainty caused by his declaration. If an increase were announced it would at once be said that the governor had forced it and a precedent in official price fixing would have been established that could never be cleared away.

No oil company could willingly take that risk, hence the only thing to be done was to wait until the situation created by the governor's statement has been straightened out.

However long or short that may be the oil industry is meanwhile being restricted in its normal development. A man of Governor Murray's sincerity may well regret that instead of being helpful to the oil producers the effects have been a hindrance.

If Oklahoma producers are to get a dollar a barrel for their oil it must be because that oil is worth a dollar a barrel in the world's market.

If raising the price of oil was as easy as that why is Russia's Soviet government underselling the world instead of declaring its crude worth three dollars a barrel? For, while you are at it you might as well wish for a billion as a million.

Some have said that if Oklahoma could fix the price of its crude the governor could fix the price of its cotton the same way. Cotton and other crop products are replaceable whereas oil is not, so there is no parallel there, but there is a parallel in coal and iron ore and copper.

If the governor of Oklahoma could fix the price of oil at any figure he desired then the governors of Pennsylvania or West Virginia could fix the price of their coal, the governor of Minnesota of its iron ore and the governors of Arizona and Montana their copper.

Governor Murray's interest in oil as the chief revenue producer of the State is readily understood. Governor Sterling of Texas is facing exactly the same problem of shrinking revenue from the State's chief source of taxation because of rockbottom prices.

The governor of Texas, being experienced in the oil business, knows he cannot alter the price by proclamation. Instead of calling out the militia to shut down the wells he asks the legislature to alter its taxation base so as to lessen the loss in revenue from the low prices making the levy 2 cents a barrel instead of 2 per cent of the value.

Two cents on 10-cent or 20-cent oil may be an additional inducement to make wasteful producers think better of giving away their oil for anything they can get.

The revenue necessities of the state governments dependent upon oil taxation are but part of the problem. The widespread effect of demoralization in the oil business on general prosperity is just as important.

These problems, arising from economic causes, can be cured only by economic remedies. They cannot be mended by chatter about state's rights and other irrelevancies of politics.

The oil men of Oklahoma have given Governor Murray full credit for the co-operation his administration has shown in regulating production in this state but when he lets his enthusiasm outrun their judgment they cannot follow him.

His spectacular proceedings, however honestly intended to aid the industry, are simply intensifying the confusion that has existed, prolonging the uncertainty and postponing the date of recovery.

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Egyptian Crude Oils Vary Widely

Cracking Necessary to Secure Quality Gasoline From Low Gravity Fields. Finished Products Have High Antiknock Value

By Gustav Egloff, E. F. Nelson and Paul Truesdell
Universal Oil Products Co.

The crudes from the three regions in Egypt which contain oil fields differ greatly from one another. Hurghada crude, found at depth from 1,600 to 2,000 feet, is pleasant smelling, heavy brown-black oil of mixed asphaltic and paraffinic character. Gemsah yields a light paraffin-base oil of greenish-black color, produced from a depth of 1,290 feet. Abu Durba crude is of heavy asphaltic character and is thought to be an inspissated and oxygenated product of petroleum. The properties of the three crudes as they are obtained in their respective fields, are assembled in the following table, the data being taken from Guthrie[1].

FOREIGN CRUDE OILS

The accompanying article is the second of a series appearing exclusively in The Oil and Gas Journal explaining products and yields to be expected in refining crude oils in foreign fields. Additional analyses of foreign crudes will appear in later issues.

Similar discussions dealing with representative grades of domestic crude oils have been published. The crudes analyzed are as follows:

July 23, page 22—Venezuela.
July 2, page 16—Michigan.
June 18, page 22—Van, Tex.
May 21, page 40—Joiner, Tex.
April 23, page 30—"Unrefinable crude oils."
April 16, page 30—Mid-Continent.
April 16, page 30—Pettus, Tex.
April 16, page 30—Kentucky.
April 2, page 30—West Texas.
March 5, page 88—Oklahoma City.
February 19, page 30—South Texas crudes.
February 12, page 38—Pennsylvania.

Hurghada crude was found by Guthrie to give the following ultimate analysis:

	Per cent
Carbon	85.15
Hydrogen	11.71
Sulphur	3.35
Oxygen and nitrogen	0.89
Vanadium (in ash)	trace
Nickel (in ash)	trace

A. E. Dunstan, discussing the work of Guthrie, noted that South American, Mexican and Persian oils have been found to contain these two metals, forming, with Egyptian crude, a group of widely different oils. Sutherland, in the same discussion, reports as much as 43 per cent vanadium in the ash of asphalt from a South American crude. The possibility of a connection between vanadium and the origin of petroleum was suggested.

The heavy grade oil from Hurghada Field was examined for its hydrocarbon content. In low boiling fractions from atmospheric distillation, unsaturated hydrocarbons were found to exist to the extent of 3-10 per cent. In heavier fractions, unsaturates comprised 40 per cent. In the first six fractions from a vacuum distillation (30 per cent of the original crude) there was approximately 11-12 per cent of aromatic hydrocarbons. In the remainder of this portion of oil, paraffin hydrocarbons predominate, only a small amount of naphthenes being present. Kewley, discussing Guthrie's work, reports 11 per cent aromatics and 23 per cent naphthenes in the gasoline fraction of this oil.

Guthrie (loc. cit.) refined the 76 per cent residue from Hurghada crude to solar or Diesel oil, hard pitch, and an inferior fuel oil. His final results, based on the crude oil, are reported as follows:

	Per cent
Gasoline	8.0
Kerosene	15.0
Solar or Diesel oil	43.2
Hard pitch	29.3
Fuel oil	1.9
Loss	3.6

Refineries in Egypt

Both the Anglo Egyptian, Ltd., and the Egyptian government have refineries at Suez, the former with 1,500 tons daily capacity and the latter, 60 tons. The refinery of the Anglo Egyptian, Ltd., was extended in 1929 to include two new Trumble distillation plants and a Dubbs cracking plant[2].

"The products manufactured at the refineries mentioned are gasoline, kerosene, solar (gas) oil, mazout (fuel oil), Diesel oil, low-grade lubricating oils, asphalt, and a few of the usual by-products.

"The throughput of the government refinery for the calendar years 1928 and 1929, was 107,100 and 132,200 bbls., respectively. The output of finished products in those years was as follows:

OUTPUT OF EGYPTIAN GOVERNMENT REFINERY
(In barrels)

Item—	1928	1929
Benzine (gasoline)	11,245	16,294
Kerosene	6,223	13,175
Diesel and mazout, light	12,561	26,143
Mazout, heavy	13,702	67,459
Asphalt fluxing oil	3,815	4,165

"The throughput of the Anglo-Egyptian Oilfields refinery in 1929 was approximately as follows:

	Bbls.
Imported Diesel oil	601,750
Imported kerosene	100,750
Imported benzine	374,000
Domestic and imported crude oil	2,660,000
Total	3,736,500

"Of the crude oil listed, about 840,000 bbls. were imported and the balance domestic production. Exact figures are not available. Roughly stated, 5 per cent of the domestic production of crude, which was about 1,911,000 bbls. in 1929, went to the government as royalty, as above described, and was used in its refinery, the balance of its throughput being purchased.

"The 1929 asphalt output of the Anglo-Egyptian Oilfields refinery was about 61,000 tons as against 52,000 tons in 1928. This item is increasing in importance yearly. About two-thirds of the asphalt production in 1929 was exported."[3]

Cracking Hurghada Stocks

Typical charging stocks derived from Hurghada crude oil were subjected to the cracking process. The oils processed were wax distillates, and mixtures of asphalt distillates with pressure distillate bottoms and Egyptian solar oil. The following analyses represent the properties of the oils which were subjected to cracking:

ANALYSES OF CHARGING MATERIALS

	86% asphalt distillate and 14% pressure dist. bottoms	Wax distillate	90% asphalt distil. and 10% pressure dist. bottoms	78% asphalt distillate 12% P.D. bottoms and 10% Egyptian solar
A.P.I. grav.	25.0	34.1	25.4	25.5
Init. B.P. °F.	347	342	338	333
Flash (Open Cup) °F.	199	....	146	194
Pour test °F.	80	....	....	75
B.S. and W., per cent	0–1	....	0.1	0.1
Vics. (Saybolt Univ. 122° F.) sec. °F.	51	....	48	45
	Per cent distilled over—			
437	10.0	4.0	9.0	11.0
482	18.0	6.5	17.0	19.0
527	24.0	8.0	24.0	25.0
572	31.0	16.0	30.0	32.5

The above oils were commercially cracked using the flashed residuum method of operation. The process operated in a continuous manner in one test for over 47 days, processing 113,518 bbls. of oil which yielded more than 55 per cent gasoline.

The data of four commercial runs are tabulated as follows:

SUMMARY OF PRODUCT YIELDS

A.P.I. grav. of charging oil	25.0	24.1	25.4	25.5
Charge to process (total bbls.)	53,197	53,700	55,512	113,518
Daily charge to cracking unit (bbls.)	2,207	2,736	2,215	2,420
Pressure distillate (bbls.)	34,442	33,260	33,468	76,237
Per cent of charge	64.7	61.9	60.3	67.16
Flashed residuum (bbls.)	14,727	17,220	16,859	29,974
Per cent of charge	27.6	32.1	30.4	26.4
Gas, coke, loss (bbls.)	4,028	3,220	5,185	7,305
Per cent of charge	7.7	6.0	9.3	6.44
Gasoline (bbls.)	28,769	28,300	31,140	62,514
Per cent of charge	53.0	52.7	56.1	55.07

The operating conditions maintained during the commercial runs in the cracking process are shown in the next table:

OPERATING CONDITIONS

Pressure (lbs.)	178	151	173	184
Hours on stream	578.5	471.5	601	1,125
Furnace—	Temperatures °F.			
Below radiant bank	1,415	1,441	1,378	1,421
Above tubes (convection)	1,270	1,265	1,218	1,308
Below tubes (convection	741	713	752	754
Transfer line	918	921	912	921
Vapors to dephlegmator	871	869	867	869
Combined feed	683	698	729	721
Vapors to condenser	483	444	476	502
Unflashed residue	805	820	811	804
Flashed residue	698	...	711	712

During the operation of the commercial cracking plant, lime was injected into the system at the rate of approximately one-half pound per barrel of charging stock, in order to cut down corrosion of the equipment.

Pressure Distillate Oil

The pressure distillates from the cracking of the four oils derived from Hurghada crude, showed the following properties:

A.P.I. gravity	50.1	51.1	51.5	506
Initial boiling point, °F.	104	106	111	100
Sulphur, per cent	1.3	...	1.2	...
Lovibond color	4+	...	4+	4+
Per cent distilled over—	Temperatures °F.			
10	165	157	169	160
20	210	207	208	201
30	252	246	250	244
40	288	284	286	282
50	322	322	318	318
60	342	340	340	342
70	372	387	372	372
80	397	419	396	403
90	426	453	424	433
Endpoint	469	504	457	480

Chemical Treatment

The pressure distillate oil was chemically treated and then steam distilled to gasoline and a gas-oil residue.

The pressure distillate was thoroughly agitated for an hour with water in a batch agitator. The water settled and was drawn off. The water washed oil was then mixed with 30° Be. sodium plumbite solution for a period of two hours. The volume of plumbite solution used, based upon the oil, was 0.65 per cent. The plumbite solution was drawn to storage. A thorough two-hour water washing of the oil was carried out, and, upon settling, the water was passed to a catch basin or sump.

The pressure distillate was then mixed with 98 per cent sulphuric acid in two additions. The first, representing about 0.5 per cent by volume of the oil, was agitated for an hour and the sludge drawn off, the second addition of acid being 2.35 per cent of the oil. The latter acid was mixed with the oil for a period of three hours. The acid treated oil was water washed for three hours, and then mixed with 0.4 per cent of 15° Be. sodium plumbite solution for two hours. A final water wash for an hour finished the chemical treatment of the pressure distillate.

The foregoing method of refining the cracked distillate is modified somewhat from time to time. The treated pressure distillate was continuously distilled in a pipe still and fractionated into gasoline and bottoms.

The cracked gasoline had an initial

(Continued on Page 109)

PROPERTIES OF EGYPTIAN CRUDES

	Hurghada	Gemsah	Abu Durba
Sp. gr. at 15.5° C.	0.907/0.925	0.837	0.945/0.950
Sulphur, per cent	2.22 approx.	0.65	2.35
Asphalt, per cent	10–11 (insol. in pentane)	0.67	10.5 (hard)
Paraffin wax, per cent	7–8	4.94	5–6 (waxy resin)
(m.p.) °F.	117.5	116	
Flashpoint (closed test) °F.	Below 45	....	Over 160
Visc. (Redwood No. 1 at 100° F.) (secs.)	896	....	3,000
Distillation products—	Per cent		
Gasoline (below 150° C.)	8	27.0	28
Kerosene (150°-300° C.)	15	33.4	..
Residue	76	39.5	..
Loss	1	0.5	..

[1] J.I.P.T. 5, 212 (1934).

[2] The Oil and Gas Journal 176 (2/27/30).

[3] Petroleum Refineries in Foreign Countries, 1930 (U. S. Dept of Commerce).

UNUSUAL PIPE-LINE ENGINEERING ON THE PENSACOLA LINE.....

CROSSING ONE OF THE COUNTRY'S WORST SWAMPS

IT was a real job, piping natural gas to Pensacola.

On the edge of one of the country's worst swamps at Bay Manette, impressive modern machinery was obliged to halt. Horses and mules were helpless. So man-power had to be employed for laying the 12-inch line over about 10 miles of its sixty-seven mile length. Part of the way, corduroy roads were built of floating logs. The same kind of joint used for river crossings was employed—the pipe was carried out and screwed on, the joint covered with a leak clamp and this in turn with a river clamp weighing 1700 pounds. Coated with enamel, and then lowered, the pipe settled into the muck. In some places, it buried itself completely. During the rainy season the line will be under six to eight feet of water.

This project, beginning near Mobile and ending at Pensacola, was an extension of one of the principal transmission lines from the Monroe and Richland fields in Louisiana—the construction being done by the Natural Gas Engineering Corporation for the United Gas Public Service Company. Besides the difficult swamp, two rivers and four bayous had to be crossed. The desirability of choosing material well, and of avoiding the possibility of interruptions to service, is well recognized in such cases. For the Pensacola Line, therefore, the choice was NATIONAL—

America's Preferred Pipe for Oil and Gas Lines

NATIONAL TUBE COMPANY • Pittsburgh, Pa.
Subsidiary of United States Steel Corporation

NATIONAL PIPE

Soviet Plans to Outstrip United States

Issues Warning Against Boycott of Russian Oil and Denies Responsibility for Disturbance of World Oil Price Levels

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 3.—The Soviet oil industry will continue its expansion program until it passes the United States as a producer, and is fully prepared to cope with boycotts or other efforts aimed at it, says the semiofficial "Izvestya" of Moscow, in an interesting article on the Russian petroleum situation. "Izvestya" predicts a huge increase in Russian consumption of oil products, but at the same time predicts continued expansion of Soviet exporting operations until Russian oil is being sold in all world oil markets.

Dumping by Rumania is blamed for current demoralization in world oil prices. "Izvestya" speaks rather proudly of its sales arrangements with Standard of New York and Vacuum and warns Standard of New Jersey that it will be much to the disadvantage of the latter company if the Anglo-American Oil Co., its British marketing subsidiary, does not renew during 1932 its contract for the purchase of Russian refined products, entered into in 1929 on the settlement of the prolonged price war in Great Britain initiated by the Soviet.

"Ten years have passed since Soviet oil appeared on the world market, and during this period, notwithstanding violent attacks on the part of the world trusts, especially of the Anglo-Dutch trust 'Shell,' the Soviet oil export trade has achieved enormous success and continues to develop satisfactorily," says "Izvestya."

"The fulfillment of the five-year plan in 2½ years, seen against the background of the profound crisis now being experienced by the world has revived interest in Soviet oil. Not only the special oil journals, but the European and American press in general are paying a good deal of attention to the Soviet oil industry and trade. Recently Sir Henri Deterding's interview and a number of articles dedicated to Soviet oil have appeared in the foreign press. And indeed, the head of the 'Shell' has something to think about.

Soviets' Increase 160 Per Cent

"From 1925 to 1930, inclusive, the world production of oil (exclusive of the U.S.S.R.) increased from 141,000,000 tons to 175,000,000 tons, or 24 per cent. The production of the United States increased from 104,000,000 tons to 123,000,000 tons, or 18 per cent. The production of the U.S.S.R. for the same period has risen from 7,200,000 tons to 18,700,000 tons, or 160 per cent.

"The picture is sufficiently comprehensive—in the U.S.S.R. an increase during the past six years of 160 per cent, in the United States of 18 per cent, and throughout the whole world of 24 per cent.

"The specific gravity of the U.S.S.R. in the world production has risen from 5 per cent in 1925 to 9.5 per cent in 1930. The year 1931 has shown a still greater difference in the speeds of development; for the first quarter of 1931 the growth of production in the U.S.S.R. was 35.4 per cent, while the production of oil in the United States diminished by 15.5 per cent.

"We occupy a sound position in the world's production, having caught up with Venezuela; whereas in the first quarter of 1930 Venezuelan production exceeded the production of the U.S.S.R. by 23 per cent in the first quarter of 1931 our production was higher than the Venezuelan production by 18 per cent.

"In the same way as the U.S.S.R. has become the second country as far as production is concerned, the Soyusneft is beginning to catch up with the second world firm—the 'Shell.' (The first place is occupied by the the American group, the 'Standard'). A comparison between the proportionate share of the 'Shell' and the Soyusneft in world production is not devoid of interest:

	1923 per cent	1930 per cent	First quarter 1931 per cent
Shell	15	12	(*)
Soyusneft	3.6	9.6	11.2

*No information.

"Here is something for Sir Henri Deterding to be agitated about. However, it would be more to the point if both the Shell and Deterding were to become reconciled to the fact of the victory of Soviet oil, and were to cease the hopeless struggle against it.

Immense Possibilities Opened Up

"The tendency towards further development of our oil industry and that of the capitalist oil industry will become clearer if we take account of the fact that the postwar years were extremely favorable for capitalist oil; the colossal growth of automobilism in America and Australia; and during the last few years likewise in Europe and other countries, and the use of oil fuel in water transport have opened up immense possibilities for the sale of oil products. In their turn, the successes of the oil industry have also hastened the process of automobilization and the conversion of transport from coal to oil fuel, and in this way have assisted in further extending the demand for oil.

"At the present time, quite independent even of the very grave crisis now being experienced by the whole of the capitalist world, there exists no longer any conditions favoring the preservation of the post war rates of development of the consumption of oil products, especially on the most important market in the United States, as the supply of motor cars has attained such proportions that the further growth of automobilism in the United

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TEXAS PLANS CAMPAIGN AGAINST UTILITY RATES

AUSTIN, Tex., Aug. 4.—Attorney General James V. Allred of Texas gives notice, in a telegram today to Grady Shipp, secretary of the Plainview Chamber of Commerce, that he will conduct a campaign to compel the reduction of rates on natural gas "throughout the entire State in line with the reduced prices and values of other commodities and services. This is true also of all public utility services. Gas and electric service companies have shown no disposition to pass on to consumers savings they should be able to make. Their rates are based on property values established during inflation and great prosperity. It is unfair and unjust for them to collect rates yielding a return upon such inflated and fictitious values. This office is making a survey of rates being charged by gas companies, as well as production and transportation costs. When this is completed, I have determined to take appropriate action, in the courts if necessary, to prevent discrimination between cities and towns of Texas, as well as between this and other states, and to effect a general scaling down of utility charges."

Late Fields

OKLAHOMA

The Oklahoma City Field was extended three-quarters of a mile to the west by a new well. Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 1 Egermier, SW cor., Section 23-11-3w, made a flow of 430 bbls. of oil in 30 minutes and 1,837 bbls. in 2 hours and 15 minutes, with an estimated flow of 14,000,000 feet of gas a day. It is one of the largest wells completed on the extreme west side of the field and indicates an extended development for the area. The oil was found in the Wilcox sand at 6,425-6,505 feet. The well adds considerable prospective territory to the field.

Phillips Petroleum Co.'s No. 1 Reserve, NW cor. NE, Section 3-11-3w, made 8,164 bbls. of oil in four hours, with a flow of 33,000,000 feet of gas a day. The well was completed in the Wilcox sand at 6,307-6,491 feet.

The Skelly Oil Co.'s No. 1 Gibson, NW cor. SW NE, Section 10-11-3w, flowed 5,870 bbls. of oil in 3 hours and 40 minutes, with an estimated 35,000,000 feet of gas a day. The total depth of the well is 6,451 feet and the 6-inch casing was landed at 6,280 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Ivanhoe, NW cor. SE NE, Section 15-11-3w, flowed 2,468 bbls. of oil in 4 hours and 58 minutes. The gas was estimated at 16,000,000 feet a day. The well is bottomed at 6,395 feet and the 6-inch casing was landed at 6,347 feet.

The deepest test in the State was still rotating at 8,925 feet. The test is Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Co.'s No. 6 Preston-Culp, NW cor. NE, Section 6-5-9w, on the west side of the Cement Pool, in Caddo County. A showing of gas was found in the test at 8,873 feet. The pressure was so great that it lifted the tools several feet off bottom. The test was shut down and the crew installed a blowout preventer and were drilling deeper. It is several hundred feet deeper than any other test was ever drilled in the State of Oklahoma.

Magnolia Petroleum Co.'s No. 4 Sumner, SW cor. NW, Section 4-20-1w, near Perry, in Noble County, has been completed for 15,000,000 feet a day from a total depth of 3,399 feet. The 9-inch casing was landed at 3,384 feet. It is the last active operation in the area.

Cimarron Utilities Co.'s No. 1 Safranko, C SE, Section 1-3-14 ecm, in the Oklahoma Panhandle, has spudded. It is located south of the Hugoton gas field in Stevens County, Kansas.

Magnolia Petroleum Co.'s No. 1 Cash, SW cor. NE SW, Section 6-14-4, a wildcat test north of production in the West Chandler Field in Lincoln County, was

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High Spots in Field News

OKLAHOMA

All prorated wells in State ordered shut down by governor who established martial law. Twenty-nine fields affected by order.

MISSISSIPPI, NORTH LOUISIANA, ARKANSAS

Three gas wells completed in Mississippi and one in North Louisiana. Promising test in the Zwolle Field.

CALIFORNIA

Drop in state's daily production to 490,000 bbls. for first time since 1922 makes outlook more encouraging.

KANSAS

State production increased 2,000 bbls. Welch Pool may be extended. Public Service Commission conference.

SOUTHWEST TEXAS

New development in Bee County. Well southwest of Pettus Pool makes 300 bbls. daily, starting offset drilling.

ROCKY MOUNTAIN AREA

Good producer likely in Border Field, makes 60 bbls. first hour and is being drilled deeper. Eddy County output up.

GULF COAST

New sand at Barbers Hill. New depth record by producer at High Island. Third completion in new Lockwood Field.

WEST TEXAS, NORTH TEXAS AND PANHANDLE

Small gain in Yates Pool. Oil movement from West Texas up. Seventy wells shut in at Big Lake. Royston Pool well, Fisher County, makes 1,725 bbls. initial. Panhandle supply balances allowable.

EAST TEXAS

Tidal Oil Co. buys 2,296 acres from Mid-Kansas company and Atlantic takes over 1,040 acres from Cranfill & Reynolds. Production reaches almost 600,000 bbls. daily, 95 producers completed during week. There are now 1,460 producers in the district.

Important Acreage Deals in East Texas

Tidal Purchases From Mid-Kansas and Atlantic From Cranfill & Reynolds. Output Nears 600,000 Bbls. Daily

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 3.—Consummation of two important acreage transactions were perhaps the most interesting news items which came out of the East Texas district during the week, the Tidal Oil Co. purchasing 2,296 acres from the Mid-Kansas Oil & Gas Co., enlarging its holdings to around 3,500 proven acres, and giving one more outlet for its production as a 6-inch line from the Joiner Pool connecting to a 36-car loading rack south of Arp was included in the deal. Consideration was not given, but was reported as close to $3,000,000 to be paid part in cash and the balance out of one-fourth the oil produced on the purchased leases.

All the acreage in this purchase is located in Gregg, with two small leases lying partly over the line in Rusk County. The following wells and leases were included in the contract: Three wells on the J. J. Castleberry farm in the D. Sanches Survey, daily average production according to the proration schedule 820 bbls.; one well on the W. E. Jones 80-acre tract in the G. W. Hooper Survey, producing 920 bbls.; one well on the Boston Moore 90-acre tract in the J. Mosely Survey, producing 110 bbls.; three wells on the G. W. Nettleton 100-acre tract in the J. Ruddle Survey, producing 640 bbls.; two wells on the M. G. Barton 194-acre tract in the S. P. Hollingsworth Survey, producing 230 bbls.; four wells on the J. R. Beall 81-acre tract in the W. Chisum Survey, lying partly in Rusk and partly in Gregg County, producing 1,025 bbls.; two wells on the E. R. Bivens 203-acre lease in the W. P. Chisum Survey, producing 320 bbls.; five wells on the J. M. Blackman 79-acre lease in the W. P. Chisum Survey, producing 782 bbls.; one well on the J. E. Choice 65-acre lease in the G. Wheelock Survey, producing 80 bbls.; one well on the M. B. Hughey 200-acre lease in the J. Fillard Survey, producing 315 bbls.; three wells on the W. P. Moore 90-acre lease. Other leases without wells are as follows: A. Davis 130-acre lease in the G. G. Painter and W. H. Hart Survey, C. G. Strong 113-acre lease in the J. Blair Survey; J. S. King 80-acre lease in the Mary Van Winkle Survey and A. S. King 79-acre lease in the same survey. J. Benson 34-acre lease in the W. P. Chisum Survey. J. L. McNealy 50-acre tract in the R. Robbitt Survey; S. L. Dansby 56-acre tract in the William Chisum Survey. R. W. Barnett 150-acre lease in the J. Taylor Survey and Tom Ball 95-acre lease in the G. F. Penn Survey.

Total daily average production of the 26 producing wells is 6,399 bbls. under proration, but they have a potential of around 200,000 bbls. per day. The Tidal Oil Co. has a daily allowable production of 6,000 bbls. from its developed properties, and with the newly added production it will have better than 12,000 bbls. per day which the Tidal Refining Co.'s 6-inch line out of the Joiner Pool, connecting with Magnolia Petroleum Co.'s trunk line will handle. The 6-inch line to loading rack will probably also be used as an auxiliary outlet. The Magnolia Petroleum Co., which has gathering lines in Gregg County, may handle oil for the Tidal Oil Co. from its new leases as they are developed, carrying the oil on a common carrier basis as it now carries Tidal's oil to the Gulf Coast. The purchase puts the Tidal Oil Co. in eleventh place in regard to amount of producing acreage and number of producing wells.

Atlantic-Cranfill & Reynolds

Another interesting contract was closed during the week when the Atlantic Oil Producing Co. took over close to 1,040 acres from Cranfill & Reynolds, including one well. The majority of this acreage is located in the Alvice and F. Johnson Surveys, Gregg County. The producing well is located on the Hays lease in the Alvice Survey. The Sun Oil Co. has a half interest in this well and acreage. Lease in the F. Johnson Survey is located on the Moore tract. Consideration was not given out, but it is believed to be in the neighborhood of $1,250,000 or $1,500,000. The Amerada Petroleum Corp. also checked this acreage, and the Atlantic Oil Producing Co. has had an option on the leases for some time while engineers and land men have been checking titles and estimating probable recovery.

The company has only recently entered the district, purchasing proven leases. The Atlantic Pipe Line Co. is now constructing a 10-inch pipe line to the Gulf Coast from Gregg County, which line will serve Atlantic Oil Producing Co.'s leases in the district. The new purchase of proven acreage will help fortify this line with sufficient oil to run it to capacity without need of connecting to outside leases, if the company so chooses.

The Texas Company, which was late in entering the district as a lease purchaser, is also purchasing leases now, but on a smaller scale than the above purchases. Magnolia Petroleum Co., Sun Oil Co. and Humble Oil & Refining Co. also continue to purchase smaller proven tracts, the latter checking small tracts on which there are producing wells.

Working on Unitization Contract

The Stanolind Oil & Gas Co., Simms Oil Co. and Continental Oil Co. are still working on contracts for the unitization of 400 acres located in the Marshall Mann Survey, partly in Gregg and partly in Upshur County. It was formerly reported that these companies would pool their entire acreage in this area, consisting of approximately 900 acres, but 400 acres only will be unitized at this time, the remainder possibly unitized later. The Stanolind Oil & Gas Co. will have charge of operations of the unitized block. Simms Oil Co. and Stanolind Oil & Gas Co. are joint owners of half of this block, and Continental Oil Co. owner of the other half.

Production Increases

Daily average production in the district increased again this week, putting it up to almost 600,000 bbls. per day, there being 95 completed producers for the week to help swell the daily average and also the daily potential. The daily average of 597,584 bbls. this week showed a gain of 92,731 bbls. per day over last week, or a gain of 245,600 bbls. per day during July. There are now 1,460 producers in the district.

According to a distribution report, there are 362,400 bbls. run by trunk lines from the district, 148,875 bbls. by tank cars and 44,225 bbls. to local refineries, with runs to local storage averaging 42,120 bbls. per day. Runs by trunk lines showed a gain of almost 93,000 bbls. per day over the previous week's figures. The increase in pipe line runs cut down the runs to storage. New refineries starting operations increased the runs to refineries this week.

New Proration Schedule

The new proration schedule for the district gives it a daily allowable of 268,753 bbls. from 1,460 wells, or 170 bbls. per unit, there being 1,470.5 units under production. There are 571 producing units in the Kilgore Pool, 403 in the Lathrop area and 496.5 units in the Joiner area, Rusk County. There are 629 producing wells in the Kilgore Pool, 533 in the Joiner area and 298 in the Lathrop area. The daily average production more than doubles the daily allowable, giving an idea as to how the companies and independent operators are not abiding by proration.

There were only 65 locations made in the district this week, showing another curtailment in this line. Twenty-six of them were reported for Gregg County, six for Upshur and 33 for Rusk and Smith County.

With the major purchasers almost having reached the saturation point on new connections, producers who still have unconnected wells, or desire selling more oil than they now have sold or contracted, are letting their crude go for almost the purchaser's price. One producer offered to build steel storage and sell up to 2,000,000 bbls. of crude to a major company for 45 cents per barrel, the purchasing company to receive the tanks under this contract. Figuring the cost of steel storage this would net the producer around 15 cents per barrel in the tanks, or about the same price as much of the oil is now bringing. This proposition circumvents the company's argument that its "storage is all full," and is a new scheme "for selling oil in packages."

Move for Shutdown

While producers, major and independents alike are disregarding proration in East Texas, many other operators were soliciting for a general shutdown in the district, suspending drilling activities and also shutting in production until the price of crude in these fields was brought back to around $1 per barrel, thereby eliminating the selling of hundreds of thousands of barrels of oil at sacrificial prices as is being done at the present. The move for a general shutdown has not received much publicity, but has been reported to be gaining considerable headway, W. E. McKinney, independent operator of Tyler, and Capt. J. F. Lucey taking the lead in obtaining backers of the movement.

Captain Lucey has asked Judge C. L. Brachfield of Henderson, president of the East Texas Land, Lease and Royalty Owners' Association, to call a meeting at an early date, and it is believed such a meeting will be held somewhere in the district this week to discuss the movement. Such a movement, it is believed, would have the support of the major operators and purchasers. Many are of the opinion that aid will not be forthcoming from the special session of the state legislature now being held at Austin, and that it lies in the operators' hands alone to check activities and curtail production in this district, thereby helping to bring about a fair price for the oil, consequently the proponents of this movement will no doubt gain many adherents to the proposition, and it may be the final appeal which will bring help to the operators who are now losing money by practically giving away their production.

New Purchases

The Petroleum Finance Corp. was reported to have purchased the Ben Laird 27-acre tract in the L. B. Outlaw Survey this week. This is in Gregg County. The Texas Company purchased a 30½-acre tract in the M. Dillard Survey, Gregg County. Leslie Wagoner, trustee for the Underwriters Oil & Gas Co., purchased a half interest in the Caddy Fisher 148-acre tract in the J. Ruddle Survey, Gregg County, from the East Texas Refining Co. and a one-fourth interest in 32 acres in the B. Rodden 84.6-acre farm in the William Robinson Survey, Gregg County.

The Empire Gas & Fuel Co. farmed out its M. Burns 36-acre lease in the H. Edwards Survey, to J. H. Massie, but has

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EAST CENTRAL TEXAS WILDCATS

Week Ending August 3

Company, well, farm name, section and block—	Remarks:
ANDERSON COUNTY	
Riango Oil Co.'s No. 1 J. Lynn, 1,400 ft. from NE line and 7,425 ft. from E line of survey, R. Brown Sur.	Shut down 2,040 ft.
H. B. McConnell et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S half of 129-ac. tract, M. Main Sur.	Derrick.
ANGELINA COUNTY	
R. O. Moore's No. 1 Abney Estate, 50 ft. N of Blk. No. 6, immediately out of city limits of Lufkin	T. D. 1,350 ft.; set 6⅝-in. csg.; bailed dry.
Pollick Oil Co.'s No. 1 Sessions, 1,250 ft. from N and 1,250 ft. from E line of Jesus De La Garza Sur.	Sidetracking 2,310 ft.
BOWIE COUNTY	
Tom Bell's No. 1 Merritt, 1,225 ft. from N and 875 ft. from E line of survey, T. S. McKinney Sur.	Shut down 2,650 ft.
Parkering-Jones et al's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	Shut down 20 ft.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	Salt water on drill stem test; shut down 3,000 ft.
CHEROKEE COUNTY	
Bridges and Candler's No. 1 Berryman, center of Berryman tract, James Dill Sur.	Rigging up.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Derrick.
Helen-Clare Oil Co.'s No. 1 Mrs. M. P. Perkins, 1,800 ft. from N and 450 ft. from W of survey, Thomas Stafford Sur.	Rig up.
William A. Stone's No. 1 Blount Decker, 900 ft. E of E line of S. Selman Sur. and 1,200 ft. S of N line of E. M. Decker 406-ac. tract in George Ruddle Sur.	T. D. 5,406 ft.
Walton Oil Co.'s No. 1 E. Singletary, 250 ft. W and 150 ft. N of NE cor. of M. Lacey Sur. and in Walters Sur. on Singletary 84-ac. tract	T. D. 2,960 ft.; shut down.
DALLAS COUNTY	
Paris' No. 1 Wilkinson, 2,787 ft. from NW and 3,241 ft. from SW of John P. Anderson Sur.	T. D. 870 ft.; shut down.
DELTA COUNTY	
D. S. Hood's No. 1 J. J. Balser, 185 ft. from S and 580 ft. W of Balser 40-ac. tract in SE cor. T. B. Laddin Sur.	Shut down 1,559 ft.
ELLIS COUNTY	
E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 510 ft. from S of Orland	Shut down 1,360 ft.; drill stem in hole.

Yates Pool Shows Small Daily Gain

Remarkable Contrast Between Yates and Winkler Is Object Lesson in Orderly Operation. Panhandle in Healthiest Condition

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 3.—While production continued to gain in East Texas during the week the new proration order covering the Yates Pool, Pecos County, in the Permian Basin, also shows a daily gain, but extremely small compared to the East Texas fields. The daily gain of the Yates Pool is only 746 bbls., the potentials taken for 12-hour period showing 2,428,273 bbls. from 401 wells. The daily outlet is held at 70,000 bbls.

The Winkler County proration report shows a potential of only 90,574 bbls. daily from 476 producing wells on 265 producing units, the field having a daily allowance of 48,000 bbls.

There is considerable contrast between the potentials of the two fields, due mainly to curtailment of production in the Yates Pool and keeping the wells pinched in, whereas in Winkler County an orgy of drilling was carried out in the field until all locations were drilled up, and all wells were produced wide open for a long time, dissipating the pressure and causing the coning of water, thereby blocking off oil. The two fields are absolute extremes in regard to operation and producing, and may readily be cited as examples. The East Texas fields may expect the same results as the Hendricks Pool in Winkler County if the wells are allowed to flow to capacity, and the acreage is continued to be drilled at the present pace. Water will act similarly in East Texas.

Crane-Upton Area

There are at present 112 wells shut in in the Crane-Upton County fields, many of these because it was not profitable to produce them at current prices of crude, and due to the fact that much water was being produced along with the oil, adding to the lifting costs. The daily outlet of these pools is 16,598 bbls. There is a total of 587 wells in the field of which 475 are producing 41,934 bbls. daily at the present, according to the latest proration figures released. Potential production is placed at 50,976 bbls., but 9,042 bbls. are shut in in the 112 wells.

Oil Movement Up

Oil movement in West Texas showed an increase of almost 9,000 bbls. daily during the week ending July 22, with pipe line runs making up practically all of this gain. Production for the same week showed a new low mark, having fallen to 198,415 bbls. As long as East Texas crude is in such great demand, and is selling at so low a figure, West Texas may be expected to continue to show a decline in production, some of the companies trying to shut in their wells to keep from producing them and selling the oil at such a low figure, which does not pay for producing it.

Group No. 1 Oil Corp. has shut in 70 of its producing wells in the Big Lake Pool, Reagan County, due to their having fallen off greatly in production, and making only 1,500 bbls. of oil with a large amount of water daily. They will be held off production indefinitely, probably until the return of better prices.

Another company producing in the Howard-Glasscock County pools is seeking signatures from its royalty owners in order to shut in its producing wells until the return of better prices.

Royston Pool Well

The Texas Company's No. 1 Jean, mile northeastern extension to the Royston Pool, Fisher County, which topped the sand at 3,089-91 feet and a second sand from 3,103-05 feet, was completed this week for an initial production of 1,725 bbls. the first 24 hours, the oil testing 36.0 gravity. Daily allowable production of the well will be 12 per cent of the third day's yield, which will be around 150 bbls. per day. The well is located in Section 201, Block 1, B.B.B.&C. Ry. Survey. A south offset to the well has been staked by Cranfill & Reynolds, which company owns the nearest producer to this extension well.

Toborg-Tippett Advance

The Shell Petroleum Corp., which purchases the oil from the shallow Toborg-Tippett Pool in Pecos County, has advanced the price of that oil another 3 cents to 15 cents per barrel. The company takes the entire output of the field, which is around 1,500 bbls. daily.

Lewis & Slagel's wildcat on the Henderson ranch in northern Loving County, is now swabbing 25 bbls. of oil per day from the Delaware sand, which is the producing horizon in this county. It will be deepened from the present depth of 3,182 feet and shot again. It is located in Section 1, Block 57, Township 1, T.&P. Survey, is 25 miles north of the Wheat Pool in the same county, and is an apparent discovery of another pool in the county. Being located almost on the New Mexico line, production is expected to extend over into that State. Pay was topped at 3,175 feet.

Panhandle

The Panhandle district has reached the healthiest stage in the industry, the production of the field falling almost below its allowable with refineries and pipe lines connecting to all leases. Daily average production this week was 54,438 bbls. The allowable is 55,000 bbls. from 1,884 wells. The daily potential of the field is 136,205 bbls.

Central West Texas

A meeting of the Central West Texas advisory committee will be held in Ranger on August 4 for the purpose of determining if wells in the Burkett Pool should be shut in until such time as crude prices increase. At present there are 25 producing wells in the pool, the wells being pinched to 25 bbls. daily, each, the oil of 36 gravity. The pool is near the town of Burkett in northeastern Coleman County, and is the latest pool discovered in that county. John Gholson is chairman of the committee which will discuss the situation.

Tex Thornton, oil well fire fighter, got back this week to shoot out the fire in Dana Oil & Gas Co.'s No. 1 Cloud, which is located in Section 169, Block 3, T.&N.O. Survey, Moore County. The entire rig and drilling equipment was consumed by the fire and the derrick from the company's No. 1 Utey, to the east will be moved over the hole on the Cloud ranch.

COMPLETIONS IN WEST TEXAS

Dawson County

Albaugh and others' No. 1 Robinson, abandoned location.

Fisher County

The Texas Company's No. 1 Jean, top pay 3,091 feet, initial production 1,725 bbls., total depth 3,105 feet.

Gaines County

Landreth Production Co.'s No. 1 Alley, Dry and abandoned, total depth 4,801 feet, top salt 1,730 feet, show oil 2,965-75 and 4,596-4,607 feet, show gas 2,983-2,990, 4,307 and 4,595-4,607 feet.

Jones County

Barney and Duffy's No. 2 King, dry and abandoned, total depth 2,035 feet.

Pecos County

J. R. Miller and others' No. 1 Bennett, dry and abandoned, total depth 2,285 feet. Whitaker and others' No. 1 Develin, dry and abandoned, total depth 420 feet.

WEST TEXAS PRODUCTION

Week Ending August 1, 1931

County—	No. wells	Prod.
Andrews	3	0
Crane	377	15,258
Crockett	51	1,318
Ector	78	7,556
Fisher	12	567
Garza	2	10
Howard-Glasscock	543	27,189
Irion	9	52
Jones	86	1,413
Loving	42	2,916
Mitchell	111	1,790
Pecos	547	72,740
Reagan	255	26,402
Runnels	5	70
Scurry	5	0
Upton	261	4,578
Taylor	3	70
Ward	65	3,047
Winkler	595	41,336
Total production this week		206,312
Total production last week		206,002
Increase		310

SHIPMENTS THROUGH TRUNK LINES

Company, size and location—	Prod.
Atlantic, 10-inch, Houston	13,880
Gulf, 10-inch, Ranger	17,702
Humble, 2-8-inch, San Angelo	36,085
Humble, 10-12-inch, Comyn	45,503
Illinois, 2-8-inch, Del Rio	33,657
Magnolia, 8-inch, De Leon	11,170
Pasotex, 8-inch, El Paso	8,579
Shell, 10-inch, Healdton	29,742
Shell, 10-inch, Houston	.....
Texas, 12-inch, Houston	22,325
Total	218,643

SHIPMENTS TO REFINERIES

Big Spring Ref. Co., Big Spring	1,040
Burford Ref. Co., Pecos	1,561
Cosden Ref. Co., Big Spring	7,042
Coltex Ref. Co., Colorado	8,048
Greatwestern Ref. Co., Pyote	2,084
Tonkawa Ref. Co., Pyote	1,593
Wickett Ref. Co., Wickett	800
Total	22,168

SHIPMENTS BY TANK CAR

Shell Pet. Corp. from McCamey	400
Big Lake Oil Co. from Texon	5,000
Thomas Brann from Grant City	171
Total	5,571
Total daily average production	198,415
Total daily average distribution	246,382
Daily average from storage	47,967

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Texas Interstate Pipe Line Co.'s No. 1-60 Burnett, top pay 2,435 feet, plugged back to 2,455 feet, initial production 19,000,000 feet of gas, total depth 2,677 feet.

Cottle County

Darby Petroleum Co.'s No. 1 Richards,

(Continued on Page 90)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended August 3

ANDREWS COUNTY

Company, well, farm name, section and block—	Remarks—
Deep Rock Oil Co. et al's No. 1 Kuykendall, 2,310 ft. from N and E of SW cor Sec. 24, School Blk. A-46	Shut down; total depth 4,648 ft.; plugged back to 4,565 ft.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	Shut down 2,820 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	Shut down 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Myrick, C Labour No. 80 of League 129, Carson County School Lands	Moving in material.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 103, T.&N.O. Sur.	Shut down 267 ft.
Betts & Dennis' No. 1 H. E. Woods, 710 ft. from E and 150 ft. from S Sec. 3, H.E.&W.T. Sur.	Shut down 80 ft.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	Shut down 1,850 ft.

CRANE COUNTY

Southwest Oil Prod. Co.'s No. 1 Tubbs, 2,310 ft. from NW and SW Sec. 3, Blk. B-27, P.S.L. Sur.	Location.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.

CULBERSON COUNTY

Kornrumpf et al's No. 1 Garren, 330 ft. S and W Sec. 15, Blk. 79, Public School Land	Shut down 1,280 ft.

(Continued on Page 92)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending August 3

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Deep Lake Oil Co.'s No. 1 Keys, NE cor. SW, Sec. 1, Blk. 4, I.&G.N. Sur.	Drlg. 3,225 ft; S.O. 3,137-41 ft.
El Paso-Amarillo O. & G. Co.'s No. 1 Chapman, 594 ft. S, 1,458 ft. E, Sec. 7, Blk. 3, A.B.&M. Sur.	Rig.
Empire G. & F. Co.'s No. 1 Poling, 1,320 ft. S and W, Sec. 28, Blk. Y-2, T.T.R.R. Sur.	Rigging up.
The Texas Co.'s No. 1 Crutchfield, 1,320 ft. S, 1,321 ft. E, Sec. 29, Blk. 4, I.&G.N. Sur.	Drlg. 2,150 ft.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	Top pay 2,498 ft; swbd. 15 bbls. oil; drlg. 2,512 ft; 1,800 ft. oil in hole.
Downey et al's No. 1 Beasley, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur.	Cellar.

GRAY COUNTY

Anderson et al's No. 2 Vollmert, 330 ft. N and W, SW, Sec. 140, Blk. 3, I.&G.N. Sur.	Rig.
Back & Barber's No. 1 Back, 330 ft. S and E, SW, Sec. 45, Blk. 25, H.&G.N. Sur.	Location
Boyles et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	S.D. 980 ft; trying to pull 8-in. csg.
Danciger O. & R. Co.'s No. 1 Barnett, 281 ft. S, 330 ft. W, E½ of N 56 ac., Sec. 136, Blk. 3, I.&G.N. Sur.	5,000,000 ft. gas 3,097 ft; S.D. 3,097 ft.
Humble O. & R. Co.'s No. 1 Hughey, C NE, Sec. 154, Blk. 3, I.&G.N. Sur.	Rigging up rotary.

(Continued on Page 90)

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Pipe Line Construction News

NORTHERN NATURAL GAS EXTENDING ITS LINES

CHICAGO, Aug. 3.—Northern Natural Gas Co., jointly owned by North American Light & Power Co., Lone Star Gas Corp. and United Light & Power Co., operating natural gas pipe lines serving territory in Iowa, Nebraska and Kansas, is acquiring right of way to complete its line from Mason City, Iowa, to Minneapolis and St. Paul.

At present the company has 968 miles of completed pipe line and has under construction an additional 219 miles, of which 183 miles of 26-inch line will connect the main line with the Hugoton gas field in southwestern Kansas and 36 miles of 16-inch line will connect Des Moines, Iowa, with the main line. The company also plans to build a line from near Sioux Falls and Yankton, S. Dak., as well as numerous other lines to cities in Nebraska and Iowa.

Plans of Northern Natural Gas involve construction of a total of 2,691 miles of pipe lines at an estimated cost of $75,000,000. Up to the present, the company has spent $30,000,000.

The company already is selling gas at wholesale to 40 cities and towns in Nebraska, 15 in Kansas, and 4 in Iowa. It does not engage in retail distribution, except to large industrial users.

GAS SYSTEM FOR COLO. SPRINGS

Natural gas will be available to all residents and industrial plants in the city of Colorado Springs, Colo., by September 15, according to an announcement made after the city council had passed an emergency financing ordinance calling for $300,000 of 5 per cent municipal revenue bonds secured by revenue from the suburban electric system. Proceeds from the bonds will be used for the construction of the necessary mains and couplings to connect with the Cities Service interstate supply line at the city limits.

GUTHRIE LINE CONTRACT

The R. O. Moore Construction Co. of Tulsa has a contract for construction of a gas line from Guthrie to the Oklahoma City Field for the Western Service Corp., now completing a distribution system in Guthrie. The Guthrie Gas Service Co., seeking a franchise renewal, is asking the courts to sustain franchise election petitions which the city authorities have held insufficient.

BUYS PARSONS LINE

ERIE, Kans., Aug. 3.—C. O. Moore, Kansas City, has purchased the Parsons Pipe Line Co. and the St. Paul, Kans., Gas Co. from W. E. Murphy, receiver, for $79,000, assuming $160,000 in obligations of the companies.

Mr. Moore said he would turn the properties over within the next few days to the Kansas Communities Gas Co., of which he is incorporator.

The St. Paul company serves St. Paul, Kans. The Parsons Pipe Line Co. transports gas obtained from the St. Paul gas fields to the city gates of St. Paul, Stark and Parsons.

EAST TEXAS OUTLETS

Trunk pipe line capacity out of East Texas will be about 640,000 bbls. with lines now built and building. Tank cars can handle about 135,000 bbls. daily and local refineries will soon be able to handle about 70,000 bbls., so it will be possible to market around 845,000 bbls. daily.

LARGEST DIAMETER GAS PIPE LINE IN COUNTRY NOW ABOUT HALF DONE

LOS ANGELES, Calif., Aug. 3.—The past week witnessed completion of approximately one-half of the largest diameter gas pipe line in this country when construction crews working on the Southern Fuel Co.'s 210-mile line from Long Beach to Kettleman Hills finished 100 miles of the job. Every foot of the line is using 26-inch steel pipe, 155 miles of which will be electrically welded.

The entire line between Long Beach and Newhall has been delivered, a 10-mile section on the Ridge north of Castaic is done, and 25 miles south from Kettleman Hills is completed. The contractors are working from both ends and in the middle, and it is anticipated that the whole job will be completed and ready for use a month ahead of schedule.

Some idea of the magnitude of the project may be gained from the following facts: Two hundred thousand yard of earth weighing 270,000 tons must be moved for grading and right of way work. In digging the trench 1,500,000 yards of earth will be moved. Yet this mammoth construction project is being completed at the rate of 1½ miles per day, including the work through the mountainous regions of the Ridge, Newhall Hills, Elk Hills, Kettleman Hills and Wheeler Ridge.

The job is being done by three contracting firms. Lingren & Swinnerton, a San Francisco firm, has already completed 29 miles from Long Beach to Glendale. The Lang & Southern California Construction Co. is building 41 miles from Castaic to Grapevine Station, and the Macco-Robertson Co., Ltd., is building the remaining two-thirds of the line, totaling 140 miles—including 31 miles from Glendale to Castaic and 109 miles from Grapevine Station to Kettleman Hills. This organization is a consolidation of Robertson & Co. and Macco Co., which last year built the 22-inch line from Grapevine Station to Los Angeles, a distance of 82 miles, for the Southern California Gas Co.

Approximately 600 men, all residents of southern California, are employed on the Southern Fuel Co.'s new gas line. They operate the caterpillars, trucks, steam shovels, cranes, welding equipment and other machinery and are used in hand digging portions of the ditch which cannot be reached by machinery.

PERMITS FOR PIPE LINE CONSTRUCTION DELAYED

HARRISBURG, Pa., Aug. 3.—Approval of the construction of three pipe line systems across various streams of the State has been delayed, the Water and Power Resources Board announced.

The permits, action on which has been deferred pending further investigation by the engineers of the board, were:

Susquehanna Gas Co., to cross streams in Tioga and Lycoming Counties.

Pennsylvania Power & Light Co., to cross streams in Northumberland County.

Keystone Pipe Line Co., to cross streams in Berks and Lancaster Counties.

The Susquehanna and the Pennsylvania Power & Light companies are building pipe lines to transport natural gas from the Tioga fields while the Keystone is engaged in distributing in the eastern counties.

Charles E. Ryder, secretary of the Water and Power Resources Board, said the applications have been referred to the engineers for further study with a view of determining whether "weaknesses" in the line may endanger the fish life and contribute to the pollution of the streams.

PIPE LINE CONTRACTS LET

KANSAS CITY, Mo., Aug. 3.—Three contracts in connection with a 120-mile piping project between Osceola, Kans., and Omaha, Nebr., have been awarded by the Great Lakes Pipe Line Co. here. Trueman and Smith, Eldorado, Kans., were awarded a 4-inch and 6-inch pipe contract. John Whitehurst, Ponca City, Okla., was awarded the contract for building a pump station near Corning, Iowa. The Permanent Construction Co., Chicago, will build a terminal building at Omaha.

WELDING CONTRACT

The Welding Engineering Co., of Bartlesville, Okla., has been awarded the electric welding of 180 miles of 10-inch pipe to be laid by the Atlantic Pipe Line Co. from East Texas to Port Neches. The general contractors on the line are Mitchell Stewart Construction Co. of Dallas, Tex.

PHILLIPS GASOLINE LINE WAS OPENED WEDNESDAY

ST. LOUIS, Mo., Aug. 3.—The 800-mile Phillips gasoline pipe line from Borger, Tex., to East St. Louis, Ill., will be opened Wednesday, officials of the Phillips Pipe Line Co. announced tonight.

The project, scheduled originally for completion February 1, was delayed because of a losing but lengthy fight waged by several St. Louis County landowners to prevent the pipe line from crossing their property. Labor troubles arose also at the East St. Louis terminus.

Officers of the pipe line company and the Phillips Petroleum Co., including Frank Phillips, its president, will participate in the opening ceremonies.

LINE FROM MESA FIELD TO START THIS WEEK

LOS ANGELES, Calif., Aug. 1.—Construction of the pipe line from the Mesa Field to the Bankline Oil Co.'s ocean loading line will be begun on or about August 8, according to James Irvine, of the Irvine Oil Co. Captain Irvine said he had contracted with the International Petroleum Corp. for 35,000 to 40,000 bbls. of oil per month, which will be handled through the latter company's tanker.

Arrangements have been completed by Captain Irvine for the installation of a pumping plant on the Fox property. He also said that he had leased part of the Bishop ranch for the erection of storage tanks.

Two large tanks for the storage of La Mesa oil on the Bishop ranch, near the ocean end of the pipe line, have been ordered, one with a capacity of 55,000 bbls., and one of a capacity of 37,500 bbls.

A collecting tank for the Mesa oil will be located on the old Terry homestead on the Mesa, where it can receive the oil from the wells by gravity.

HOLDENVILLE GAS LINE

The Oklahoma Portland Cement Co. has let a contract to Jones & Brooks of Oklahoma City, pipe line contractors, for 20 miles of 8-inch gas line from Holdenville, Okla., to its plant.

CONSTRUCTION ACTIVITY IN EAST TEXAS FIELD

FORT WORTH, Tex., Aug. 3.—The Texas Independent Pipe Line Co. which is starting construction on a 10-inch line from Gregg County to Norsworthy station on the Houston Ship Channel will erect six 80,000-bbl. tanks on the J. C. Bumpass farm in the William Castleberry Survey, Gregg County, where the first pump station will be located.

The Magnolia Petroleum Co. announced it would add another 80,000-bbl. steel tank at its Kilgore tank farm. This tank farm is located on the J. A. Norris 50-acre tract in the G. W. Grace Survey and already has three 80,000-bbl. tanks and two 55,000-bbl. tanks erected and is building two more eighties.

The Texas Pipe Line Co. is surveying for a 10-inch gathering line from Camps Switch in Gregg County, presumably to connect with its trunk line from Gregg County to Nacogdoches County. The northern terminus of the line is in the western part of Gregg County.

The Liberty Pipe Line Co. has two 250 horsepower Westinghouse electric motors connected to Worthington pumps and four 5,000-bbl. tanks at its pumping station on its Brightwell lease in the Kilgore area, and would also build a similar station southwest of the Joiner Pool near Arp. It has been negotiating for a pump station site, in this area, with the Sinclair Oil & Gas Co.

PIPE ORDERS INDICATE WORK BEING HELD OFF

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 3.—A large amount of line pipe construction is held in abeyance, inquiries coming in the last few months indicate. From time to time prices on pipe are asked in connection with fresh projects. Companies that had the needed money have gone ahead with their projects and ordered line pipe, but projects involving substantial financing have been deferred until conditions grow better. The work is merely held off, by no means abandoned. There is much natural gas ready to move and there are prospective customers, while, as to gasoline, it is moving now by rail at more than the cost would be by pipe line. Most of the line pipe ordered thus far this season has been for oil and gas lines. Demand for casing and other oil country goods remains light.

SUN LINE SOON READY

Sun Oil's new pipe line from East Texas to the Gulf, which is being built in conjunction with Yount Lee Oil Co., has 100 miles of 10-inch completed. About 3.8 miles is being laid a day so that it will be about August 15 when it is finished.

MEDICINE HAT LINE

CHATHAM, Ontario, Aug. 3.—The city of Medicine Hat, Alberta, is laying a short 10-inch line to take production from a new field recently opened northeast of the city.

BUYING EQUIPMENT

The Ajax Pipe Line Co., Landers Building, Springfield, Mo., is reported to be in the market for a supply of river clamps and additional pipe to be stored so as to be available quickly in case any of the river crossings of the company's line washes out.

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The TRUMAN-SMITH CONST. Co.
EL DORADO, KANSAS.

EAST CENTRAL TEXAS

(Continued from Page 25)

announced it will not farm out any more such properties.

The Prairie Oil & Gas Co. purchased a half interest in the F. B. Wilson 71-acre tract, including three wells, located in the Pru Survey, Rusk County.

Estimate 19,200 Bbls. Per Acre

Engineers and statisticians of the Humble Oil & Refining Co. have estimated that the ultimate total recovery will be 19,200 bbls. per acre in Rusk and Gregg Counties.

The Vacuum Oil Co. has announced that it is in position to purchase 30,000 bbls. of crude oil per day, which will be shipped in tank cars. The company recently contracted for 100,000 bbls. per day from the Inland Waterways Pipe Line Co. at 15 cents per barrel loaded on tank cars, to be taken at the rate of 8,000 bbls. per day. It also purchased 100,000 bbls. from the Marine Oil Corp. at 13 cents per barrel, loaded on tank cars.

The Magnolia Petroleum Co. has increased its runs to 80,000 bbls. daily, and other pipe line companies are gradually increasing their runs from the fields through major trunk lines, and some of them by tank car shipments.

The Cherokee Chief Oil Co., which has a loading rack at Gladewater, has sold 34,000 bbls. to the Primrose Refining Co. at Wichita Falls for 13 cents per barrel, loaded at Gladewater and for shipment to the latter's plant at Wichita Falls.

Possible Lathrop Extension

Becker and others' No. 1 Barrett, in the G. W. Witche Survey, northeastern Gregg County, a half mile northeast of the nearest producer, now appears as having a chance of making a producer and extending the limits of the Lathrop Pool, however, it will be the limiting well in that direction according to present appearances. It cored sand from 3,607-15 feet, from 3,619½-21 feet, and while standing shut down at 3,647 feet was washed for four hours, then given a swabbing test, looking good for a small well on this test. The well continues to head as the owners swab it in an effort to stimulate flush natural production.

McMahon and McCullough's No. 1 Hamilton in the M. Chandler Survey, southern Upshur County, is now standing with bottom hole at minus 3,327 feet, dangerous depth due to salt water table being established between minus 3,310 and 3,320 feet in the area. Saturated sand was topped at 3,756 feet. The well is being swabbed, but looks like another northern marker for the Lathrop area, as it is due to be only a small well whether or not it is making salt water as reported. Salt water may soon be expected, if not showing up on the swabbing tests. Elevation of the test is 434 feet, and total depth is 3,761 feet.

Van Pool Allowable

Daily allowable of the Van Pool is still at 43,000 bbls. while new proration schedule for period from August 1 to August 16, shows the daily average potential to be 498,018 bbls., a gain of 1,200 bbls. daily, this increase being due to the completion of one well during the past two weeks.

COMPLETIONS IN EAST CENTRAL TEXAS

Week Ending August 1

Gregg County

O. O. Alford's No. 1 L. M. Colburn, top sand 3,515 feet, base 3,544 feet, initial production 250 bbls. per hour through open tubing, total depth 3,546 feet. Clark & Cowden's No. 1 J. M. Christian, top sand 3,618 feet, initial production 95 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,646 feet. Cranfill & Reynolds' No. 1 R. E. Barnsdall, top sand 3,474 feet, initial production 217 bbls. per hour through open tubing, total depth 3,491 feet.

Empire Gas & Fuel Co.'s No. 1 L. J. Rogers, top sand 3,584 feet, initial production 137 bbls. per hour on three-quarter inch tubing choke, total depth 3,644 feet. Fain & McGaha's No. 2 Clements, top sand 3,576 feet, initial production 130 bbls. per hour on 1-inch tubing choke, total depth 3,615 feet. Grisham & Hunter's No. 2 T.&P.R.R., top sand 3,576 feet, initial production 130 bbls. in 30 minutes, total depth 3,604 feet.

Gulf Production Co.'s No. 1 Bozeman, top sand 3,576 feet, initial production 140 bbls. per hour on three-quarter inch tubing choke, total depth 3,611 feet. Hammill & Smith's No. 1 M. Hill, top sand 3,496 feet, base 3,523 feet, initial production 1,532 bbls. in 24 hours through 1-inch tubing choke, total depth 3,524 feet. Humble Oil & Refining Co.'s No. 1 W. W. Holland, top sand 3,519 feet, initial production 404 bbls. in three hours on three-quarter inch tubing choke, with 2,060,000 feet of gas, total depth 3,560 feet.

Magnolia Petroleum Co.'s No. 2 J. W. Free, top sand 3,619 feet, initial production 308 bbls. per hour through tubing and casing choke, total depth 3,630 feet. J. H. Massey's No. 1 Worr, top sand 3,619 feet, initial production 190 bbls. per hour on three-quarter inch tubing choke, total depth 3,650 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Moore, top sand 3,496 feet, initial production 250 bbls. per hour through open tubing, total depth 3,535 feet. Oils Inc.'s No. 1 Mosely, top sand 3,450 feet, initial production 229 bbls. per hour through open tubing, total depth 3,491 feet.

Prairie Oil & Gas Co.'s No. 3 Isley, top sand 3,542 feet, initial production 110 bbls. per hour through three-quarter inch tubing choke, total depth 3,560 feet. Rowan-Nichol's No. 1 Todd, top sand 3,537 feet, initial production 262 bbls. per hour through open tubing, total depth 3,607 feet.

Sinclair Oil & Gas Co.'s No. 1 J. A. Aiken, top Austin Chalk 3,578, top sand 3,581 feet, initial production 150 bbls. per hour through open tubing, total depth 3,596 feet. Same company's No. 5 M. Moncrief, top sand 3,579 feet, initial production 882 bbls. in four and three-quarter hours, through open tubing, total depth 3,597 feet. Same company's No. 6 Moncrief, top sand 3,571 feet, initial production 192 bbls. per hour through tubing, total depth 3,581 feet. Same company's No. 2 J. R. Williams, top sand 3,512 feet, initial production 237 bbls. per hour through open tubing, total depth 3,536 feet.

Sun Oil Co.'s No. J. M. Haynes, top sand 3,575 feet, initial production 235 bbls. per hour through tubing, total depth 3,625 feet. Texas Pacific Coal & Oil Co.'s No. 2 Free, top sand 3,546 feet, initial production 125 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,609 feet.

Yount Lee Oil Co.'s No. 1 M. B. Harley, top sand 3,587 feet, initial production 92 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,607 feet. Same company's No. 1 Hopkins, top sand 3,499 feet, initial production 97 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,519 feet. Same company's No. 2 Jones, top Austin chalk 3,442 feet, top sand 3,485 feet, initial production 90 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,505 feet. Same company's No. 2-B McKinley, top sand 3,631 feet, initial production 95 bbls. per hour through eleven-sixteenths inch tubing choke, total depth 3,651 feet.

Atlantic Production Co.'s and Byrd Frost Inc.'s No. 1 R. Whaley, top sand 3,624 feet, initial production 210 bbls. per hour through open tubing, total depth 3,631 feet. Bell & Graddy's No. 1-A W. Daniels, top sand 3,554 feet, initial production 190 bbls. per hour through open tubing, total depth 3,561 feet.

Gulf Production Co.'s No. 1 H. E. Alexander, top sand 3,521 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,536 feet. Same company's No. 1 T. C. Reeves, top sand 3,628 feet, initial production 121 bbls. per hour through three-quarters-inch tubing choke, total depth 3,634 feet. Same company's No. 7 Spear, top sand 3,537 feet, initial production 200 bbls. per hour through tubing, total depth 3,578 feet.

Johnson, Wyene and Yarboro's No. 1 J. V. Bordies, top sand 3,544 feet, initial production 90 bbls. first two hours through open casing, total depth in Georgetown lime 3,654 feet. C. H. Lyon's No. 1 Shoto Ray, top sand 3,612 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,628 feet.

Mid-Kansas Oil & Gas Co.'s No. 2 J. R. Beall, top sand 3,641 feet, initial production 145 bbls. first hour through open tubing, total depth 3,649 feet. Same company's No. 4 J. R. Beall, top sand 3,638 feet, initial production 162 bbls. first hour through open tubing, total depth 3,645 feet. Same company's No. 5 Blackman, top sand 3,644 feet, initial production 170 bbls. per hour through tubing, total depth 3,655 feet.

Pelican Natural Gas Co.'s No. 1 Spear and Laird, top sand 3,620 feet, initial production 200 bbls. per hour through 1½-inch casing choke, total depth 3,623 feet. Rosenfield Petroleum Corp.'s No. 7 W. E. Elder, top sand 3,552 feet, initial production 202 bbls. in 15 hours through two-sixty-fourths-inch tubing choke, total depth 3,602 feet. Seigel and others' No. 1 A. A. King, derrick abandoned.

Sinclair Oil & Gas Co.'s No. 6 Cole, top sand 3,564 feet, initial production 501 bbls. in 10 hours through open tubing, total depth 3,568 feet. Same company's No. 3-A King, top sand 3,471 feet, initial production 200 bbls. per hour through open tubing choke, total depth 3,503 feet. Same company's No. 4-A King, top sand 3,486 feet, initial production 260 bbls. per hour through open tubing, total depth 3,513 feet. Same company's No. 5-A King, top sand 3,485 feet, initial production 235 bbls. per hour through open tubing, total depth 3,517 feet.

The Texas Company's No. 2 H. T. Elder, top sand 3,662 feet, initial production 152 bbls. per hour on 1½-inch tubing choke, total depth 3,683 feet.

Nacogdoches County

Benedum-Trees' No. 1 Conkrite, top Georgetown lime 5,407 feet, dry and abandoned, total depth 5,485 feet. Burt and others' No. 1 Reese, dry and abandoned, total depth 4,012 feet. Vitex Combine Group's No. 1 Hayter, dry and abandoned, total depth 3,598 feet.

Rusk County

Abercrombie and Harrison's No. 2 Brightwell, top sand 3,575 feet, initial production 80 bbls. per hour through three-quarters-inch tubing choke, total depth 3,601 feet. East Texas Refining Co.'s No. 2 Wills, top sand 3,581 feet, initial production 115 bbls. in 15 minutes through open tubing, total depth 3,586 feet.

Gulf Production Co.'s No. 3 Jernigan, top sand 3,610 feet, initial production 75 bbls. per hour through three-quarters-inch tubing choke, total depth 3,621 feet. Same company's No. 1 Terrell, top sand 3,607 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,609 feet. Houston Oil Co. and Crim's No. 2 E. Thompson, top sand 3,635 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,668 feet.

Humble Oil & Refining Co.'s No. 27 L. D. Crim, top sand 3,590 feet, base 3,601 feet, initial production 100 bbls. first hour on three-quarters-inch tubing choke, total depth 3,602 feet. Same company's No. 32 L. D. Crim, top sand 3,625 feet, initial production 90 bbls. first hour through three-quarters-inch tubing choke, total depth 3,650 feet. Same company's No. 33 L. D. Crim, top sand 3,654 feet, initial production 95 bbls. first hour on three-quarters-inch tubing choke, total depth 3,659 feet. Same company's No. 34 Crim, top sand 3,595 feet, initial production 84 bbls. first hour, total depth 3,610 feet. Same company's No. 12-A S. S. Laird, top sand 3,645 feet, base 3,704 feet, initial production 37 bbls. first hour on swab through three-quarters-inch tubing choke, total depth 3,729 feet.

Magnolia Petroleum Co.'s No. 5 Bradbury, top sand 3,673 feet, initial production 132 bbls. through 4-inch line on casing, on 1-inch tubing choke, total depth 3,677 feet. Frank Russell's No. 1 J. S. Powers, top sand 3,757 feet, estimated

VITEK FIRE KILLED BY NOVEL METHOD OF PUMPING WATER INTO WELL

By L. G. E. Bignell
Petroleum Engineering Editor

The fire at the Vitek Oil Co.'s No. 5 Eaton in the London district, East Texas Field, was finally put out last week by the use of a new method suggested by Barney Carter, independent operator of Tyler, Tex., with the aid of Vitek officials and H. L. Patten, sawmill operator of Houston, Tex.

A previous attempt to smother the fire by the use of carbon dioxide gas failed and it was then proposed to drive a tunnel to the casing and tap it and force mud and water into the well to kill the flames. Before actually starting on this method, however, it was decided to try the method suggested by Mr. Carter and it was successful.

A crew of experienced oil field men consisting of Alex Bradford of McCamey, Tex., and Warren Hurdle of Fort Worth, Tex., working at the fire without asbestos suits but protected with streams of water playing on them constantly did the close-up work, while the stabbing crew consisted of A. N. Goldsmith of Jackson, Ala.; R. W. (Doc) Hudson, of Plain Dealing, La., and Kelton Patten of Cleveland, Tex.

Directing the work was S. W. Benninger, production superintendent of the Vitek Oil Co., and E. S. Marshall and John W. Roland, representatives of Earle B. Mayfield and John Stephens, receivers for the company.

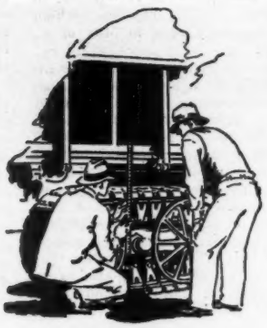
After pipe lines to carry the water to the well had been strung to a point as close as possible to the fire they were picked up with a steam shovel operated by Jimmy Crowder, of McAllen, Tex., and swung over the flames and the crew then worked the end of this pipe into the open end of the tubing, and all the time this was being attempted water was being pumped through the pipes.

The pipes from pump to well were covered with asbestos where they entered the flames but as it took nine attempts to stab the water line into the coke-covered christmas tree connection even this protection did not prevent parts of the pipe from getting white hot and bending while handled. As soon as the connections at the well were completed the stream of water was diverted directly into the well and after 59 minutes of pumping the fire was killed.

By using this method the well casing and tubing was left in good condition for connections to be made to bring the well under control and this final detail was taken care of without any particular trouble and the well brought under control after being on fire and wild since Sunday, June 28.

An ingenious method of coupling up water lines so that they could be moved about the fire by a grappling hook suspended by a cable from a portable steam-shovel crane was used. The end of several lines converged into one pipe which had an elbow from which a tapered nipple protruded. This end joint was then lowered directly over the tubing and dropped down into it, a collared flange just above the tapered nipple setting down over the 6⅝-inch casing as the tapered nipple went down into the tubing. This flange helped to shut off some of the fire coming up above the casing and when water from two steam pumps was pumped through the lines, down through the tapered nipple into the tubing and circulation established through the outside casing it overcame the fire and snuffed it out. A cloud of steam rolling away from the mouth of the well denoted success for the new method, in a little under one hour's time after the men started swinging the water lines into place by use of the drag line and crane.

61,500 pounds . . but easy for Atheys . . . . .



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■ A 30-ton boiler—bulky—hard to manage—8 miles of gravel road—a mile of newly constructed, soft embankment—the problem of finding equipment capable of handling this tremendous load. ■ An ATHEY Wagon did the job—easily, with one tractor. Unusual performances like this prove the value of ATHEYS' extra strength, light-running qualities and many mechanical refinements. Every ATHEY Truss Wheel Wagon brings ALL these advantages to EVERY heavy hauling job—makes hard hauls easy and long hauls inexpensive. ■ Only in ATHEY TRUSS WHEEL WAGONS do you get the *engineering refinements* that mean low cost haulage. Turn your heavy jobs over to ATHEYS for bigger loads, quicker time, less cost. Write for details.

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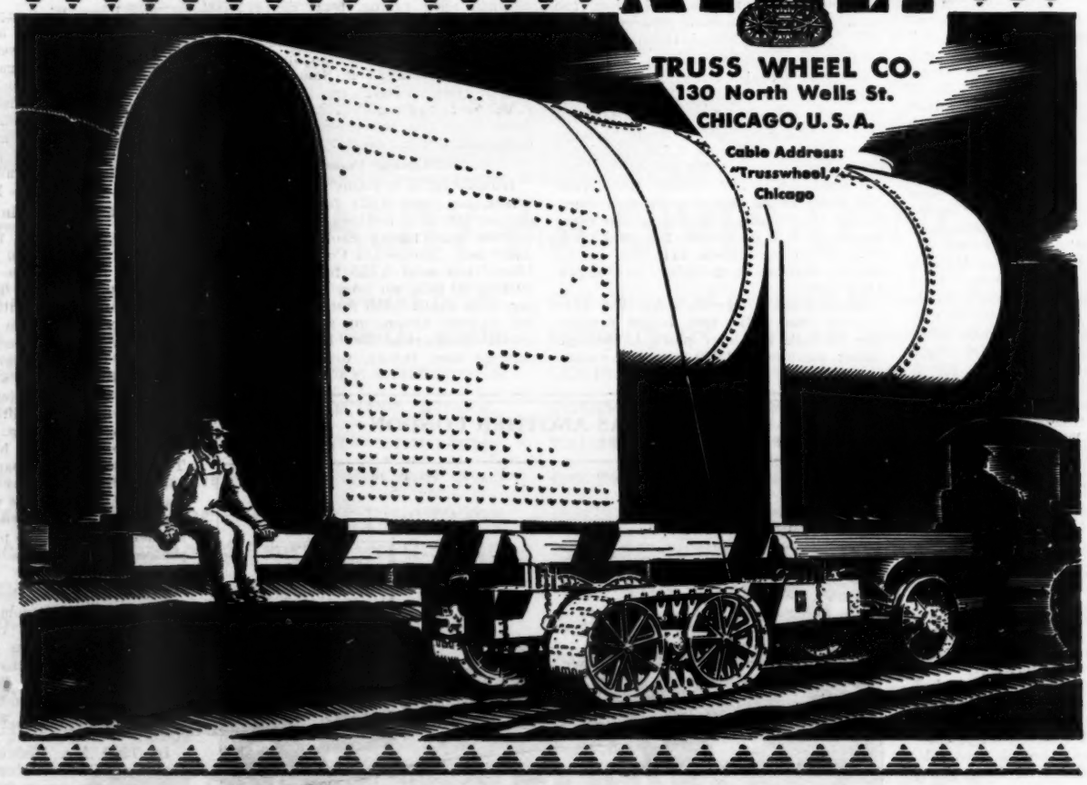

TRUSS WHEEL CO.
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Chicago

12,000 bbls. on 10-minute gauge, total depth 3,767 feet. Southern Crude Oil Purchasing Co.'s No. 1 Rena Christian, top sand 3,670 feet, initial production 36 bbls. per hour through eighteen-sixty-fourths-inch tubing choke, total depth 3,676 feet.

T. C. Adam's No. 1 J. E. Arnold, top sand 3,652 feet, initial production 100 bbls. per hour through open tubing, total depth 3,682 feet. Armstrong and Pitt's No. 1 Cooper, top sand 3,549 feet, initial production 65 bbls. in 24 hours by heads through casing, total depth 3,608 feet. Arrow Refining Co.'s No. 1 Thrash, top sand 3,759 feet, initial production 126 bbls. per hour through 2½-inch open tubing, total depth 3,800 feet. Clopton and Hanburry's No. 1 Thompson, top sand 3,705 feet, initial production 187 bbls. per hour through open tubing, total depth 3,747 feet.

Devonian Oil Co.'s No. 4 J. B. Millstead, top sand 3,651 feet, initial production 90 bbls. per hour through open tubing, total depth 3,748 feet. Donally and Chastian's No. 1 Giles, top sand 3,676 feet, initial production 100 bbls. per hour through tubing, total depth 3,750 feet. Gulf Production Co.'s No. 2 W. L. Murphy, top sand 3,774 feet, initial production 145 bbls. per hour through open tubing, total depth 3,787 feet.

Humble Oil & Refining Co.'s No. 3 Blackwell, top sand 3,689 feet, initial production 66 bbls. per hour through 1-inch tubing choke, total depth 3,707 feet. Same company's No. 1 Sol Dennis, top sand 3,725 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,750 feet. Same company's No. 1-B Holt, top sand 3,730 feet, initial production 73 bbls. per hour through three-quarters-inch tubing choke, total depth 3,773 feet. Same company's No. 11 Kangerga, top sand 3,669 feet, initial production 52 bbls. per hour through three-quarters-inch tubing choke, total depth 3,702 feet. Same company's No. 1 L. R. Lindsay, top sand 3,722 feet, initial production 119 bbls. per hour through three-quarters-inch tubing choke, total depth 3,705 feet. Same company's No. 8 Plowman, top sand 3,691 feet, initial production 67 bbls. per hour through three-quarters-inch tubing choke, total depth 3,706 feet. Same company's No. 2 W. L. Price, top sand 3,695 feet, initial production 97 bbls. per hour through three-quarters-inch tubing choke, total depth 3,789 feet. Same company's No. 1-B R. E. L. Silvey, top sand 3,626 feet, initial production 62 bbls. per hour through three-quarters-inch tubing choke, total depth 3,739 feet. Same company's No. 1-A White, top sand 3,673 feet, initial production 105 bbls. per hour through three-quarters-inch tubing choke, total depth 3,786 feet. Same company's No. 1-B White, top sand 3,669 feet, initial production 108 bbls. per hour through three-quarters-inch tubing choke, total depth 3,669 feet.

H. L. Hunt's No. 1 Holt, top sand 3,812 feet, initial production 85 bbls. per hour through open tubing, total depth 3,835 feet. Jackson Wise and Snechum's No. 1 Wilson, top sand 3,627 feet, initial production 155 bbls. per hour through open tubing, total depth 3,660 feet. Lide-Rowe's No. 3 Young, location abandoned. John Mabee's No. 1 Maxwell, Frederick, top sand 3,561 feet, initial production 125 bbls. in 12 hours through casing, total depth 3,645 feet.

Sinclair Oil & Gas Co.'s No. 6 Kinney, top sand 3,654 feet, initial production 100 bbls. per hour through open tubing, total depth 3,666 feet. Same company's No. 7 Kinney, top sand 3,630 feet, initial production 50 bbls. per hour pinched through tubing, total depth 3,644 feet.

Stanolind Oil & Gas Co.'s No. 1 Grissom, top sand 3,681 feet, initial production 126 bbls. per hour through open tubing, total depth 3,687 feet. Same company's No. 2 O'Quinn, top sand 3,799 feet, initial production 142 bbls. per hour through open tubing, total depth 3,811 feet.

Strickland Oil Co.'s No. 3 Blackwell, top sand 3,684 feet, initial production 450 bbls. per hour through open tubing, total depth 3,703 feet. Thomasson and others' No. 1 Thompson, top sand 3,686 feet, initial production 43 bbls. in 30 minutes through tubing, total depth 3,731 feet. Vierson and others' No. 1 Grissom, top sand 3,676 feet, initial production 290 bbls. per hour pinched through casing, total depth 3,688 feet.

Smith County

Lawrence E. Ketch's No. 1 T. O. Wright, top sand 3,696 feet, initial production 515 bbls. in 6½ hours through open tubing, total depth 3,735 feet. Magnolia Petroleum Co.'s No. 4 J. R. Wright, top sand 3,670 feet, initial production 140 bbls. in 15 minutes through open tubing, total depth 3,673 feet. Same company's No. 5 J. R. Wright, top sand 3,667 feet, initial production 111 bbls. in 15 minutes through open casing, total depth 3,672 feet.

Sinclair Oil & Gas Co.'s No. 2-A Jarvis, top sand 3,674 feet, initial production 50 bbls. per hour pinched, through tubing, total depth 3,679 feet. Same company's No. 4-B Jarvis, top sand 3,691 feet, initial production 250 bbls. per hour through open tubing, total depth 3,702 feet. Same company's No. 1-A Mayfield, top sand 3,834 feet, initial production 65 bbls. in 20 minutes through open tubing, total depth 3,837½ feet. Same company's No. 2 Dora Wright, top Austin chalk 3,556 feet, top sand 3,728 feet, initial production 210 bbls. per hour through open tubing, total depth 3,734 feet.

Upshur County

Humble Oil & Refining Co.'s No. 2 Edwards, top sand 3,614 feet, initial production 100 bbls. in three hours on three-quarter inch tubing choke, total depth 3,640 feet. Mudge Oil Co.'s No. 1 J. L. Bland, top sand 3,755 feet, initial production 50 bbls. per hour three open tubing, total depth 3,755 feet. Sun Oil Co.'s No. 1 Beda Loben, top sand 3,692 feet, initial production 200 bbls. per hour through open tubing, total depth 3,717 feet. Tarver and others' No. 1 J. W. Free, top Austin chalk 3,598 feet, initial production 155 bbls. per hour through 1-inch tubing choke, total depth 3,684 feet.

Van Zandt County

Walmer Oil Co.'s No. 1 J. R. Ivey, dry and abandoned, total depth 4,262 feet.

PETROLEUM, PETROLEUM PRODUCTS AND NATURAL GASOLINE, JUNE, 1931

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during June, 1931, amounted to 75,116,000 bbls., a daily average of 2,504,000 bbls. This represents the fifth successive increase in monthly production and is an increase over the daily average in May of 15,000 bbls., but is 60,000 bbls. below the daily average of a year ago.

As has been the case for a number of months, Texas supplied practically all of the new production. The total daily average production in that State during June amounted to 982,000 bbls., which was easily the highest daily output ever recorded in any State. Practically all of the increased output in Texas in June came from the East Texas district, which yielded 355,000 bbls. daily as compared with 308,000 bbls. daily in May. As an illustration of the importance of East Texas, it may be cited that of the 603 oil wells completed in the entire country in June, 349 were located in this field. Production in Oklahoma showed practically no change from the previous month. The Kettleman Hills Field of California recorded a material gain in output but this was more than compensated by declines in other fields of that State.

The gain in crude production was accompanied by increased demand by refineries and crude stocks continued to decline, though at a slightly reduced rate. Stocks of light crude in the Mid-Continent area increased, reflecting the gain in production in East Texas, but crude stocks in most of the other districts declined. Stocks of both light and heavy crudes in California showed material declines; that in heavy crude brought the total to below 100,000,000 bbls. for the first time since 1929.

Stocks of all oils declined 3,592,000 bbls. in June as compared with a drop of 81,000 bbls. in May. This material withdrawal from stocks resulted primarily from the increased demand for crude and gasoline.

Refined Products

The daily average crude throughput in June amounted to 2,541,000 bbls., which compared with daily runs in May of 2,533,000 bbls.

The production of motor fuel, after increasing rapidly for a number of months, showed a small decline. Daily imports of gasoline were again lower; exports fell off from 4,992,000 in May to 3,265,000 in June. The indicated domestic demand for motor fuel amounted to 1,279,000 bbls., an increase over June, a year ago, of 7.5 per cent. Stocks of motor fuel on hand June 30 amounted to 44,296,000 bbls., a decline from the previous month of 3,652,000 bbls. The June stocks represent 32 days' supply as compared with 37 days' supply on hand a month ago and with 35 days' supply on hand a year ago.

The refinery data of this report were compiled from schedules of 352 refineries, with an aggregate daily recorded crude-oil capacity of 3,778,490 bbls., covering, as far as the bureau is able to determine, all operations during June, 1931. These refineries operated during June at 67 per cent of their recorded capacity, given above, as compared with 356 refineries operating at 67 per cent of their capacity in May.

TEXAS HAS ANOTHER LONDON

London, Rusk County, Texas, one of the boom towns of the East Texas oil fields.

R. M. REDDING SHINES AS A REHABILITATOR

(Continued from Page 16)

with his coal in the proportion of about one part bark to eight of coal and made gas out of it. Then he turned around and sold steam to the tannery, some of it made with the bark which the tannery laid down on the gas property free of charge.

The necessity of installing a water-gas plant to keep customers supplied with fuel while the run-down coal-gas plant was undergoing restoration led Mr. Redding to build a refinery unique in size and in the character of its operation. Gas oil was needed as fuel in making the water gas. It could not be bought, so a dimunitive refinery was constructed to convert Tampico bunker crude into the needed gas oil. The refinery, including storage tanks, still, condenser and pumps, cost $20,000.

The 14 to 16 degree Tampico topped crude was run down to a point where the residue was a thick pitch, which for a time presented a problem. It could not be sold and attempts to burn it under the still merely resulted in its running through the grates. But the resourceful gas company manager found a profitable way out of the difficulty. He simply allowed the hardened pitch to accumulate until the goal-gas plant was ready for use. Then he carbonized it along with the coal, thus making gas out of what had promised nothing but trouble. This made the cost of the gas oil 10 per cent less than the quantity price of it in the United States.

The Porto Rico experience wasn't all strategy, distraction and narrow escape from failure. There were pleasant phases. For example, can a gas company official in the United States think of anything more delightful and more unlikely than a city government agreeing to a raise in gas rates, no matter how unquestionably just, without so much as a grumble for political effect? That was the refreshing experience of the Porto Rico Gas Co.

Rate Making in Porto Rico

When coal soared from $5 a ton to $27.50, an increase in gas rates was imperative to make up for the increased cost of production. Twice in one year the increases were authorized, first from $1.45 per 1,000 feet to $2, and then from $2 to $3. In each case the increase was approved by the municipal authorities of San Juan, sitting about a table with Mr. Redding and listening to his frank discussion of the conditions that made the higher rates necessary. They recognized the reasonableness of his representations. The newspapers, instead of criticizing the company and the city officials and declaring that the people were being robbed, complimented Mr. Redding on his management of the gas properties and expressed themselves as satisfied that the new rates were fair.

After putting the Porto Rico gas properties on a solid foundation, Mr. Redding in 1922 returned to the United States and joined the Dallas Gas Co. as chief engineer. The company at that time was owned by the H. D. Walbridge Co. In 1929 he was made general superintendent while continuing his work as chief engineer.

In 1909 Mr. Redding married Miss Josephine Diet of New Orleans. They have two sons, one a freshman in Tulane School of Medicine, New Orleans, La., and the other a high school student. Mr. Redding, known among his intimates as "R. M.," is a member of the Dallas Athletic Club, the University Club of Dallas, the Cedar Crest Country Club and the Technical Club. He is a Mason and a Knight Templar.

The HIDDEN QUALITY that GIVES LONGER LIFE

If Toncan Iron could talk it would probably brag about one quality which, while hidden, means more than every other—its uniform resistance to destructive attack. For Toncan Iron is just that—uniformly fortified against the inroads of rust and corrosion from one end of the pipe to the other, from the inside surface to the outside, throughout the shallow threaded section, at cut ends, at bends and through the couplings.

Toncan Iron is an alloy of refined iron, copper and molybdenum—a reflection of metallurgical progress through more than twenty years. Like any quality product it costs a little more. In the first place, the copper and molybdenum themselves are expensive. Also, the alloying and refining operations materially increase production costs. Yet, in the final analysis, it is the refining of the iron and the alloying of the iron with copper and molybdenum which make Toncan Iron a real economy—which make it a low cost ferrous pipe figured on the basis of additional useful troublefree years of life.

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Producers Waiting for Shut-Down Order

Oklahoma City Field Ends July Proration Period With a Large Underproduction. Final Arguments to Be Heard in Federal Court on the Champlin Case

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Production from the State continues to show a daily decline in the estimates for the week ending August 1. The daily average of the seven days was approximately 424,650 bbls. a day, a decline of 57,000 bbls. from the previous week. Based upon an allowable of 550,000 bbls. a day for the State, it shows a net loss of approximately 125,000 bbls. a day for the week.

The Oklahoma City field, which is the largest flush field in the State, ended the month of July with a total production of 4,951,421 bbls. which is a daily average of 159,723 bbls. while the allowable was 203,000 bbls. a day. Of this amount the pipe line companies handled 4,892,303 bbls. The overrun oil to the pipe lines totaled 325,099 bbls. and the underrun totaled 3,483,927 bbls. for the month. The companies that ended the month of July with an overproduction included Champlin Refining Co. with 279,875 bbls., the Courter Oil Co. with 5,760 bbls. on a new well, A. A. McArthur and others 1,315 bbls., Russell Petroleum Co. 1,312 bbls., Sinclair Oil & Gas Co. 666 bbls. on one well, the Wellman Oil & Refining Co. 2,929 bbls., the Wilcox Oil & Gas Co. 12,281 bbls., and the Rajah Oil Co. with 228 bbls.

A survey reveals that 41 of the 58 producing companies in the Oklahoma City Field were underproduced as of August 1, due to the voluntary shut down against the low price of crude oil which has prevailed during the month. The independent producers control the majority of the production in the Oklahoma City Field, it being the largest source of supply in the State. It is still being curtailed by voluntary agreement.

Oklahoma City Output Up

As the result of the new proration period which started in the Oklahoma City Field August 1, the production jumped to 100,000 bbls. on August 1, the largest daily flow in two weeks. None of the companies overproduced. The Phillips Petroleum Co. produced 54,000 bbls. of oil but the oil was not being sold. Skelly Oil Co. produced 18,000 bbls. of oil from wells in the north end of the field. Sinclair Oil & Gas Co. produced 10,000 bbls. from six wells Sunday. Indian Territory Illuminating Oil Co. produced 13,200 bbls. Sunday, and the Blackwell Oil & Gas Co. produced 20,289 bbls. It is believed the companies are attempting to produce their August allowables in as short a time as possible and then shut in the wells during the balance of the month.

During the week ending August 1, the oil industry in Oklahoma has been uneasy since Governor Murray threatened to issue an executive order to shut in all the prorated areas in the State until higher prices are paid.

When the governor issued his ultimatum a week ago he said he would give the oil companies until Saturday to meet the increased price. The present price is 50 cents for all grades offered by the Sinclair Refining Co. and 42 cents top offered by most of the other purchasers in Oklahoma.

At 7 a.m. August 1 the August proration period started in the Oklahoma City Field and in all the other prorated areas in the State and to prevent the producers from opening their wells ahead of time Otto Bradford, umpire in the Oklahoma City Field, sent his men into the field at midnight to check wells that had finished their allowable production for July and would not be eligible to produce until Saturday morning. The wells that have part of their allowable yet due from July were permitted to produce after midnight. The underproduced allowable from the Oklahoma City Field is estimated to be in excess of 3,500,000 bbls.

Efforts for compromise were a failure and toward the latter part of the week several rumors on the price situation were in the air but nothing definite could be established. A meeting of the stripper committee was held in Tulsa and a compromise price agreed upon but after consulting representatives of the major purchasing companies, the committe was told that no action would be taken or considered until Governor Murray issued the shutdown order. Several of the major purchasing companies are reported to have refused to raise the price of crude to $1 until there was an economic change in the oil industry.

During the week production has been low in the flush areas and some of the major pipe line companies have been unable to secure enough crude to meet their requirements. Some of the major purchasers are believed to be planning to get their crude oil requirements from the East Texas Field by reversing the shipments in their pipe lines between Oklahoma and the Texas fields in order to bring in East Texas crude through the State to meet their requirements at the northern refineries.

Shutdown Possibilities

The operators in the Oklahoma City Field may be forced to shut down the entire field the second time. About two years ago the field was shut down for 30 days because of the overproduction of crude oil. For the past two weeks there has been a voluntary shutdown of approximately 80 per cent of the producers in the field. If Governor Murray issues a general shutdown order it will be the second time the field has been forced to shut down. The field is about two years and seven months old and has produced approximately 70,000,000 bbls. of oil. One of the points the operators are considering if the field is shut in is that the field umpire has ruled that the allowable production not taken by the companies shutting down would be carried over into the next proration period. The underproduction is oil that cannot be produced because of mechanical difficulties or that cannot be moved by pipe lines to storage during the proration period. This is not the case at the present time as there is a market for the allowable production from the Oklahoma City Field. If the underproduction is carried forward until the price of oil reaches $1 a barrel there is a possibility that the field may produce more than the market demand and cause crude prices to drop. The field umpire shows the field to be underproduced 3,726,000 bbls. of oil on July 27, and estimates that it will be underproduced 3,500,000 bbls. on August 1.

Another important event will be the decision of the Champlin Refining Co. case now in the Federal Court. The Champlin Refining Co. is operating its wells in the Oklahoma City Field under a temporary restraining order. A survey of the production of the wells indicates that on July 25 and 26 the following wells were on production: Champlin Refining Co.'s No. 1 McCulip, NW cor. NE NW NE, Section 2-11-3w, made 1,967 bbls. on July 25 and 2,026 bbls. of oil on July 26. The company's No. 1 Maiden, C W half SW SE NW, Section 2-11-3w, was shut in. No. 1 Seal, C N half NE SW NW, Section 2-11-3w, flowed 1,094 bbls. on July 25 and 1,052 bbls. on July 26. No. 2 Seal, C N half NW SW SW, Section 2-11-3w, flowed 68 bbls. in 12 hours on July 25 and 67 bbls. on July 26 in 12 hours. Champlin Refining Co. and Hall & Briscoe's No. 1, in Block 15, C S half NE SW SE, Section 3-11-3w, flowed 2,913 bbls. in 4 hours on July 25 and 5,567 bbls. in 8 hours on July 26. Same companies' No. 1, in Block 19, C N half SW SW NE, Section 3-11-3w, flowed 3,873 bbls. of oil on July 25, and 1,270 bbls. of oil on July 26.

The discovery well in the Oklahoma City Field was plugged back to the shallow gas sand and made 80,000,000 feet of gas a day. The well was Indian Territory Illuminating Oil Co.'s No. 1 fee, C SE SE, Section 24-11-3w, which was recompleted as an 80,000,000-foot gas well from the Layton sand at 4,820 feet. The well was drilled to a total depth of 6,624 feet and before being plugged back it made 1,036,000 bbls. of oil from the Arbuckle lime. The gas was found in the same horizon as in the south offset, where the same company's No. 1 Emerson-Joyce was recompleted for 35,000,000 feet of gas a day.

New Tests Nearing Completion

New tests nearing completion in the Oklahoma City Field include Tom Slick Oil Co.'s No. 2 Burroughs, NW cor. NE NW, Section 10-11-3w, on the east side of the field, which had the sand at 6,355 feet and cemented the casing at 6,347 feet. The operators were planning to start bailing as soon as the flow lines were connected.

Indian Territory Illuminating Oil Co.'s No. 3 Ivanhoe, NW cor. SE NE, Section 15-11-3w, was being connected to the tanks. The oil sand was found at 6,347-95 feet. The casing was cemented on top of the sand.

J. C. Stauffer and others' No. 1 Deterding, NE cor. SW NW, Section 10-11-3w, was preparing to bail with the casing cemented. The oil sand was found at 6,418-6,538 feet.

Wilcox Oil & Gas Co.'s No. 1 Lowe, NE cor. NW NW, Section 10-11-3w, is a new location announced during the week.

Several tests which have been shut down for some time were reported preparing to resume operations, some under new management.

Mission Pool Showing

A showing of oil was found in the wildcat test of the Burgher Oil Co. and others' No. 1 Charley, SW cor. NW SE Section 18-8-6, south of the Mission Pool in Seminole County. The oil showing was found in a core from the Wilcox sand which was topped at 4,296 feet. The core was taken in a rotary hole and the operators were coring deeper before shutting down and landing casing and rigging up standard tools. In the first core the first foot appeared to be well saturated with oil and gas. The log of the test reveals the formations are running lower than was expected and the test may be on the edge of a pool. The log shows a brown lime at 3,410 feet, the Caney shale at 3,545 feet, the Mayes lime at 3,920-35 feet, the Woodford shale at 3,885 feet, the Sylvan shale at 3,985 feet, Viola at 4,210 feet, Simpson dense 4 253 feet and the Wilcox sand at 4,296-99 feet, where the core showed white sand which is believed to be a water sand. A tester will be run to determine what is in the formation.

Stanolind Oil & Gas Co.'s No. 1 Burks, NW cor. SE Section 32-5-5, in the Beebe area in Pontotoc County, was drilled

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WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Shut down 1,332 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Shut down 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW Sec. 6-1-15	Rig.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T. D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 23-11-22w	Waiting on cement to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-3-22w	Shut down 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 24-10-24w	Shut down 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	Shut down 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 1 Houston, Sec. 24-6-13w	Shut down 1,115 ft.

COAL COUNTY

McCraw Oil Co.'s No. 1 Ward, NE SE Sec. 35-1-8	Shut down 1,730 ft.
Whitney et al's No. 1 Miller, SE NE Sec. 19-2-8	Shut down 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.

LE FLORE COUNTY

H. E. Dowd et al's No. 1 Unknown, SE NE Sec. 17-3-22	Drlg. 600 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Shut down 5,850 ft.

GARVIN COUNTY

Mariarnee et al's No. 1 Phillips, NE SW SE Sec. 24-3-3w	Shut down 4,830 ft.
Skinner's No. 1 Elrod, SW cor. Sec. 12-2-2	Shut down 1,130 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft.; T. D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 23-7-21w	Shut down 1,645 ft.

HARPER COUNTY

Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w	20,000,000 ft. gas 5,350-5,400 ft.; T. D. 5,539 ft.; shut down; sprayed 50 bbls. gasoline.

HASKELL COUNTY

Sooner Oil & Gas Co.'s No. 1 Unknown, C NE SE Sec. 9-7-20	Drlg. 1,050 ft.
Bowers Oil & Gas Co.'s No. 1 Black, Kent Townsite, SE SW SW Sec. 31-8-20	1,000,000 ft. gas 710-50 ft.; T. D. 850 ft.
Ault et al's No. 1 Harrison, CWL SE NE Sec. 14-9-19	Shut down 650 ft.
Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19	Shut down 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-9-19	Shut down 200 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e	Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW Sec. 10-9-18e	Shut down 2,357 ft.

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Ritz-Canton Potential 125,000 Barrels

Kansas Production Increased 2,000 Bbls. Welch Pool May Be Extended. Conference With Public Service Commission

By W. A. Spinney
Staff Correspondent, Kansas Fields

An advance of approximately 2,000 bbls. a day was reported for the State during the week ending August 1. The State's advance was believed to be due to the recent completions in the Ritz-Canton Pool, in McPherson County, which pool has the largest potential production in the State. The State's daily average for the same seven days was approximately 99,500 bbls.

The prospects of extending the Welch Pool, in Rice County, were bright when J. R. Robertson's No. 1 Rainey, SW cor. Section 3-21-6w, began filling with oil from the top of the chat. The casing is being landed on top of the chat before drilling the well deeper. It is located about a half mile southwest of the Hipple & Rogers recent extension well which was completed for 2,000 bbls. of oil a day. The Robertson well is logging higher than the Hipple & Rogers well.

The Stanolind Oil & Gas Co.'s No. 4 Flood, NW cor. Section 1-20-2w, on the west side of the Ritz area, in the Ritz-Canton Pool, was drilled deeper and increased its flow. The well was drilled 10 feet and made 801 bbls. of oil in three and one-half hours, which is at the rate of better than 5,000 bbls. a day.

Conference at Topeka

During the week members of the Kansas Public Service Commission and representatives of nine purchasing companies, including the major buyers of the State's crude oil production, were in conference at Topeka. The members of the Public Service Commission suggested higher prices for crude oil in the State. A suggestion was made the price of Kansas crude oil be advanced to 73 cents a barrel to the purchasing companies at the conference. One of the members of the commission said after the meeting that the commission believed there was no justification for the present crude oil prices which were recently increased to 42 cents a barrel after they had been cut to 10 to 22 cents a barrel.

It developed at the conference that the Public Service Commission did not intend to issue any drastic proration order in the State at this time and it was indicated that the commission would not arrive at any definite conclusion as to its course of action until after the developments in Texas, where the legislature is now considering oil legislation.

The Public Service Commission could prorate the State's production down to 5 or 10 per cent of the potential if it desired to co-ordinate with the State of Oklahoma, if that State issues a general shutdown order. The members of the commission stated that Kansas crude oil should bring at least as much as the present cost of buying in East Texas plus the cost of transportation to Kansas, which was estimated to be about 73 cents a barrel.

It was pointed out at the conference that Kansas refiners were taking around 90,000 bbls. of crude oil daily of the State's 97,000 bbls. and that Kansas producers are being made to suffer for overproduction elsewhere.

Companies represented at the meeting, which was called when crude oil was selling at 10 to 18 cents a barrel, were the Empire Oil & Refining Co., Standard Oil Co. of Kansas, Stanolind Crude Oil Purchasing Co., Derby Oil Co., The Texas Company, Sinclair Oil & Gas Co., Prairie Oil & Gas Co., Gypsy Oil Co. and Carter Oil Co.

McPherson County Production

During the month of July the production from McPherson County increased approximately 21,507 bbls. a day from 10 new wells. In June only five new wells were completed and they added only 9,848 bbls. new production daily. The gas production was also increased during the month of July from five wells that have an open flow of 93,500,000 feet of gas a day. In June seven gas wells were completed with an open flow of 85,500,000 feet.

In the Decker gas area, McPherson Oil & Gas Co.'s No. 2 Fleming, NW cor. Section 11-19-2w, is making 2,500,000 feet of gas a day from the chat at 2,901-13 feet. The well is the south offset to the Derby Oil Co.'s No. 1 Sedey, which was completed for 10,000,000 feet of gas a day.

Magnolia Petroleum Co.'s No. 1 in the NW cor. NE NW, Section 21-19-1w, on the east side of the Ritz-Canton Field, made 24,500,000 feet of gas a day from the chat at 2,912-55 feet. The rock pressure was 990 pounds. The well is approximately 1,000 feet from the townsite of Canton where an ordinance was passed requiring the posting of a bond before any drilling can be started inside the city limits.

One of the largest wells completed during the week was given a potential rating of 4,186 bbls. a day. The well was Stanolind Oil & Gas Co.'s No. 4 Flood, NW cor., Section 1-20-2w. The oil was found in the chat at 2,924 feet and the pay was found at 2,957-58 feet.

Twin Drilling Co.'s No. 2 in the SE cor., Section 19-19-1w, swabbed 54 bbls. of oil and 4 bbls. of water from the Viola lime at 3,417-30 feet. It was then shut down.

Abilene Oil Co. and others' No. 1 in the NE cor. NW, Section 30-19-1w, was given a potential rating of 1,506 bbls. of oil a day after making 753 bbls. of oil in 12 hours from the Viola lime at 3,-424-31 feet.

Lario Oil & Gas Co. and others' No. 1 in the NE cor. SE NW, Section 6-20-1w, in the southern part of the Ritz-Canton Pool, was given a potential rating of 2,150 bbls. of oil a day from the Viola lime at 3,415-28 feet.

Stanolind Oil & Gas Co.'s No. 2 Zerger, NE cor. SE, Section 16-21-3w, in the southern part of Voshell Pool, in McPherson County, swabbed and flowed 887 bbls. of oil in 24 hours from the chat at 3,017-63 feet.

Ivan Otstot and others' No. 2 Koehn, NE cor. SE NE, Section 16-21-3w, was expected to reach the chat formation in a few days. It was drilling at 2,750 feet on the last report. It is the north offset to the Stanolind Oil & Gas Co.'s well.

Ritz-Canton Potential

The potential output of the Ritz-Canton area is estimated to be more than 125,000 bbls. at the present time as the result of recent completions, according to Field Umpire Lloyd R. Pickrell. New potentials are expected to be taken in the area in a short time. The White Eagle Oil & Refining Co. expects to complete its new pipe line from its refinery at Augusta in Butler County to the Ritz-Canton Field during the week. The line will give the field an additional outlet.

When the line is completed the White Eagle Oil & Refining Co. will increase its nominations to 7,000 bbls. a day, giving the field an outlet of approximately 11,000 bbls. a day. The new line connecting the field is expected to be in operation by August 9. At the present time the oil is being shipped through several other pipe lines to the refinery.

Under the unit plan of potentials the Ritz-Canton Field has 70 units of 40 acres each with a potential of 106,723 bbls. a day, the field umpire reports.

Recent completions, on which the umpire has completed potential tests include: Abilene Oil Co.'s No. 1 Anderson, in Section 30-19-1w, with a potential of 1,934 bbls. a day; No. 2 Garrett, in Section 30-19-1w, with a potential of 1,506 bbls. Lario Oil & Gas Co.'s No. 1 B. Miller, in Section 6-20-1w, for 2,150 bbls. a day; No. 2 Wiggers, in Section 36-19-2w, for 1,988 bbls. a day. Mid-Kansas Oil & Gas Co.'s No. 1 Whitright, in Section 30-19-1w, for 1,248 bbls. a day. Stanolind Oil & Gas Co.'s No. 4 Flood, in Section 1-20-2w, for 4,180 bbls. of oil a day.

Decker Gas Field

The gas production from the Decker Field, which adjoins the Ritz-Canton Pool on the northwest, has now surpassed the amount of open flow of gas from the Hugoton Field in the southwestern part of the State. The Decker gas field in McPherson County now has an open flow of more than 900,000,000 feet of gas a day, from 51 completed wells.

Another new well completed in the field was drilled in by McPherson Oil & Gas Co.'s No. 2 Lovett, C NW NW, Section 13-19-2w. The well is the fifty-first producer in the field. It was showing approximately 1,000,000 feet of gas in the top of the chat at 2,902-04 feet. It is located on the east side of the field and offsets the W. C. McBride, Inc.'s No. 1 Lovett, on the same lease.

Eastborough Pool

Among the wells producing from the chat in the north end of the Eastborough Pool, in Sedgwick County, near the recent deep sand discovery that may be drilled deeper, is Magnolia Petroleum Co.'s No. 5 Wheeler, SW cor. NE NE, Section 19-27-2, the east offset to the new Viola lime producer which is estimated to be a 500-bbl. well.

Derby Oil Co.'s No. 1 Rimel, NW cor. NE NE, Section 30-27-2, in the south end of the Eastborough Pool, has resumed pumping after a fishing job of several months. The well is making 7 bbls. of oil an hour and about 8 bbls. of water an hour from the Simpson sand.

Leighty and others' No. 1 Lemert, NE cor. SE, Section 36-34-9, Chautauqua County, is making 1,300,000 feet of gas from 855-59 feet with a rock pressure of 185 pounds. The well is a wildcat in the southwestern part of the county.

Syndicate Oil & Gas Co.'s No. 2 Becker, NW cor. NE NE, Section 36-19-1w, found a showing of gas in the top of the chat at 2,923 feet. The 8-inch casing was landed at this depth. It is believed the test will be drilled to the Viola lime.

In the Ritz area of the Ritz-Canton Pool, E. B. Shawver and others' No. 1 Decker, NE cor., Section 2-20-2w, was drilling at 2,400 feet. It is located in the western part of the field and is the south offset to G. Dickey's No. 1 Decker, a large chat formation producer.

New Operations

In the list of new operations for the week ending August 1, one was located in the Goodrich Pool, in Sedgwick County, which has been inactive for more than two years. The Continental Oil Co.'s No. 1 Black, SW cor. SE NW, Section 16-25-1, an old producing well, was rigging up to drill deeper to the Simpson sand. The well was producing from the chat at 3,008-12 feet and has been pumping only a few barrels a day. The Continental Oil Co. owns all the prospective producing acreage in the area and these leases will expire next spring. When the pool was discovered there were three wells completed near the discovery which had a initial output of 9,000 bbls. a day and subsequent drilling brought only small producers.

Cowley County leads the State in new operations with a total of five. The remaining six are divided among Butler, Greenwood, Russell, Sedgwick and Rice Counties.

Cowley County

Allen and others made location for No. 1 Sackett, C NW SE, Section 12-32-5.

Greenwood County

Stanolind Oil & Gas Co. and others made location for No. 6 Ellis, SW cor. NW, Section 27-23-11. York State Oil Co.'s No. 1 Rice, SW cor. NW, Section

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WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Syndicate Oil Co.'s No. 1 Boertz, NW SE SE, Sec. 13-18-13w	Shut down 2,440 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w	Shut down 2,432 ft.
McCool et al's No. 1 Tsorn, NW SE NE Sec. 12-20-11w	Shut down 1,600 ft.
CHASE COUNTY	
Borden et al's No. 1 Atkinson, NW SE Sec. 18-18-7	Rig on ground.
CHAUTAUQUA COUNTY	
Leighty et al's No. 1 Lemert, NE SE Sec. 36-34-9	Spudding.
CLAY COUNTY	
Crystal Oil et al's No. 1 Tivier, SW cor. Sec. 19-8-2	Shut down 2,700 ft.
COFFEY COUNTY	
Heyburg's No. 1 Kroft, SE SW SE Sec. 30-23-14	Shut down 1,565 ft.
COWLEY COUNTY	
Fisher et al's No. 1 Hurt, C SW SE SE Sec. 11-34-3	Rig.
DICKINSON COUNTY	
Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Drlg. 4,026 ft.
ELLSWORTH COUNTY	
Keyes Bros' No. 1 Gregory, SW cor. Sec. 23-16-9w	Drlg. 1,245 ft.
Alyward et al's No. 1 Stratman, SE NW SE Sec. 1-17-10w	Silicious 2,255-71 ft.; 117 bbls. 2 hrs.; shut in; est. 2,000 bbls.; no pipe line connection.
Aladdin Pet.'s No. 1 Stoddenberg, C SW Sec. 22-16-10w	Silicious lime 3,332-47 ft.; est. 1,-500 bbls. a day; shut in.
Milton et al's No. 1 Kester, SE NE Sec. 6-14-9w	Shut down 3,290 ft.
FORD COUNTY	
Carter Oil Co.'s No. 1 Everett, C NE Sec. 22-29-21w	Drlg. 5,422 ft.
Swain et al's No. 1 Taylor, C NW Sec. 21-25-24w	Shut down 5,105 ft.
GRAHAM COUNTY	
Schleimeyer et al's No. 1 Clark, SW NE NE Sec. 11-9-25w	Shut down 4,648 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor. Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft. 6,000,000 ft. gas; at 2,133-42 ft. 3,000,000 ft. gas; showing oil 3,385 ft.; T. D. 3,-441 ft.; shut down; estimated at 600 bbls. a day.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE Sec. 7-24-1	Rig.
J. P. Flannigan's No. 1 Sheridan, C SW Sec. 32-22-1	Drlg. 1,640 ft.
LINCOLN COUNTY	
Buck et al's No. 1 Schuiz, C SE NE SW Sec. 19-11-6w	Rig on ground.

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·EXPERIENCE·

"IT IS EXPERIENCE", said Plato, "that causeth our life to move forward by the skill we acquire, while want of experience subjects us to the effects of chance." **** In the handling of the large sums involved in a Natural Gas development, chance can have no place. Security against loss and error must be made doubly sure—and "acquired skill" is the only dependable safeguard. It is cheaper to pay FOR experience than to pay IN experience.

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New Sand Discovered at Barbers Hill

New Depth Record Set by Producer at High Island. Third Completion in New Lockwood Field Makes 1,000 Bbls.

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 3.—New production added on the Gulf Coast the past week included completion of good wells at Barbers Hill, High Island and Lockwood (Thompson). At the former a new sand was proved up on the north flank of the dome; at High Island a slight extension on the northwest flank of the dome and a new depth record set for that area; and at Lockwood the completion was the third consecutive one for the field, which was opened only last May.

The Barbers Hill completion was Humphreys Corp.'s No. 1 Fitzgerald-Meadows, 100 feet east and 50 feet south out of the northwest corner of Strip 9, Henry Griffith League, which came in flowing 1,000 bbls. daily, 416 pounds pressure on a half-inch choke, from sand at a total depth of 4,225 feet. A total of 66 feet, 10 inches of 5-inch screen was set in the sand. The hole previously had been drilled to a total depth of 4,253 feet where an effort was made to set four joints of 7-inch screen but at that time the screen hung up and the well blew out. After the well was killed the stuck screen was sidetracked and the new hole drilled to its present depth.

This well is the shallowest of any of the series which has been brought in by Humphreys Corp. in that area and the sand apparently is not the same as that from which the other wells are producing. The shallowest well until now had been this company's No. 2-B Barber, located a couple of hundred feet to the northwest, which was completed at a total depth of 5,057 feet. The other four completions, not including two deep tests drilled somewhat farther out from the dome, have been in sand from 5,240 to 5,367 feet. All these wells are in sand underlying the salt overhang on the north side. The Fitzgerald-Meadows well drilled through 1,964 feet of salt from 1,397-3,361 feet and apparently is located close up on the point of contact with the dome.

A One-Company Field

Development in this particular area of Barbers Hill is being carried on entirely by Humphreys Corp., which holds all the acreage. With a break of only one dry hole, No. 1-B Barber, six good wells have been brought in. These do not include the discovery well, No. 1 Morgan, and No. 2 Scott, the first two wells, which made only small wells (since abandoned) from deep sands located well out from the dome and some distance from the present development which lies up under the salt. Humphreys Corp. at this time is rigging up for an additional test, its No. 1 Ebanspacker, 700 feet from the north line and in the center east and west of Strip 5, Henry Griffith League. This is an east offset to No. 1 Anna Davis and is the most eastward of the wells so far drilled.

On the west flank of Barbers Hill, Sun Oil Co. has abandoned temporarily its No. 3 Smith. This well was brought in earlier in the month flowing 300 bbls. of fluid, 1.8 per cent water, from sand at 5,318 feet but quickly sanded up. An attempt was made to sidetrack screen but following an unsuccessful attempt work has been stopped.

At High Island, Galveston County, Yount Lee Oil Co. brought in its No. 21 Cade on the northwest flank of the dome. The well is in sandy shale at a total depth of 5,077 feet and set one joint of 4½-inch screen. It started flowing at the rate of 700 bbls. daily on a half-inch choke with pressure of 1,125 pounds. This is the first well drilled by this company at High Island since it acquired control of the dome several months ago, purchasing properties formerly owned by Marrs McLean and also the Gulf Production Co. It is on that part of the dome originally owned by Marrs McLean.

Although not the deepest well at High Island it is the deepest on the northwest flank and extends production approximately 150 feet. The deepest well was No. 10 Smith, a well drilled by Gulf Production Co., and located on the south side of the dome. That well was completed in sand at 5,911 feet and proved one of the best wells of the dome. Yount Lee Oil Co. has been cleaning that well out and late in the week had reset screen and was bringing it back in.

Interest in New Pool

Early in the week, Cullen & West and Gulf Production Co. brought in their third consecutive well at the new Lockwood (Thompson) Field, eastern Fort Bend County. This well, No. 1 A. P. George, is estimated good for 1,000 bbls. daily on a three-quarters-inch choke from sand at 3,485-3,519 feet. It is located 600 feet to the south of No. 1-A Lockwood, the second producer, which is 2,500 feet from the southwest of the discovery well, No. 1 Lockwood & Sharp. The George well topped the sand a little lower than in the well it offsets and is not as good a producer as the first two. Location immediately was made for the fourth test in the field, this to be No. 1-B Lockwood & Sharp, located 600 feet west of No. 1-A Lockwood, the second well of the field. It is being rigged up.

This area figured in a sizeable acreage trade during the week when Cullen & West leased 1,000 acres off the north side of the T. W. Davis' 1,790-acre tract in the Robert Peebles Survey, which is just south of the John Rabb Survey in which the present field is located. The north line of the lease is approximately a quarter of a mile south of the George well, just completed. Terms of the lease are reported to have been $25,000 in cash and a 4,500-foot test.

Northeast of the Refugio Field of the lower Gulf Coast district, United Production Corp.'s No. 1-B W. J. Fox, William Hews & L. Brown Survey, has drilled into sand showing oil at 5,865-72 feet and has cemented 5-⅛-inch casing at 5,864 feet to test. This test is expected to prove a link between this company's No. 1-A Fox, a wildcat producer completed early in May, and the Lambert Pool of the Refugio area. The No. 1-A Fox is 7,000 feet to the north of this company's No. 1 M. F. Lambert, the nearest production and one of three wells completed in that particular pool which is about 2 miles northeast of the main Refugio Field. The No. 1-B Fox is approximately 1,350 feet to the south of No. 1-A and between it and the Lambert wells. The sand in No. 1-B if not a different one than in No. 1-A or the Lambert wells was topped slightly higher, No. 1-A Fox being in the sand at 5,880-86 feet. The latter checked closely with wells in the Lambert area. Offsetting No. 1-B, United Production Corp.'s No. 4 Lambert late in the week was drilling below 2,900 feet. T. P. Morgan's No. 1 Lambert, located 2,000 feet to the north of the Lambert wells and between them and the Fox wells, has passed the sands and is drilling below 6,475 feet.

One at Refugio

The only completion at Refugio was a 200-bbl. well, Houston Oil Co.'s No. 6 Pratt-Hewitt-Rooke, located on the west side of the old 3,700-foot area. It was completed in sand at 3,699-3,704 feet. It formerly has been completed in this sand during 1929 but the old hole was sidetracked and drilled back to the sand.

Vacuum Oil Co.'s No. 1 Waite, deep wildcat on the Iowa geophysical salt dome prospect on the Calcasieu-Jefferson Davis Parish line, late in the week was trying to kill a heavy salt water flow which showed a pressure of 1,625 pounds through a half-inch choke. The flow is from a sand at 5,001-08 feet coming from between the 9⅝-inch casing set on that sand and the 7-inch string standing cemented on sand at 6,961-79 feet. The well blew out July 25 while waiting to test the deep sand. This is the first test on the prospect.

Gulf Production Co. has abandoned its No. 1 Kishi, J. Dyson Survey, Orange County, north of the Orange Field. At a total depth of 5,801 feet the test had failed to find any showings. This company also has stopped drilling in its No. 14 Boyt, north end of the Hankamer Field, southern Liberty County. This test went to a total depth of approximately 5,850 feet but is to be plugged back in an attempt to retest sands in which it previously had failed to make a well. If the test is unsuccessful it will end the string of 14 consecutive wells which have been completed at Hankamer, not including the four deep wildcats abandoned as dry but located some distance from the present field.

Pure Oil Co. has made location for its third test on the Gueydan geophysical salt dome prospect in Vermillion Parish, Louisiana. This is No. 2 Southwest Louisiana Land Co., 1,300 feet east and 300 feet south of the NW cor. of Section 4-12s-1w, or 3,680 feet due west of No. 1, which was abandoned at 6,594 feet. It is 4,280 feet west and 2,900 feet south of No. 1 Alliance Trust Co., now drilling in hard sandy lime at 6,141 feet.

In the McFaddin gas field of southern Victoria County, United Production Corp. has made location and has derrick up for its No. 5-A McFaddin, 4,250 feet northward along an extended east line of the C. L. Mann Survey and in the Maria Traviesa Survey. This is slightly over a half mile to the northeast of No. 4-A, recently completed gas well at 3,762 feet.

GULF COAST FIELDS AND WILDCATS

Week Ended August 1

All Rotary

BARBERS HILL—CHAMBERS COUNTY

Humphreys Corp.'s No. 6 E. E. Winfree, W. D. Smith Sur., 50 ft. from N line and 50 ft. from W line of tract ..... Drlg. rock 4,356 ft.

Humphreys Corp.'s No. 1 Fitzgerald-Meadows, Henry Griffith League, 50 ft. S and 100 ft. E of NW cor. of tract ..... Set 66 ft. 10 in. of 5-in. screen 4,225 ft.; comp. flowing 1,000 bbls. pipe line oil, 416 lbs. pressure, ½-in. choke.

Humphreys Corp.'s No. 1 Ebanspacker, Henry Griffith League, 700 ft. from the N line and 70.6 ft. from the E and W lines of the tract ..... Rigging.

Sinclair Oil & Gas Co.'s No. 3 Smith, W. D. Smith Sur., 50 ft. out of S cor. of tract ..... Drlg. lime rock 4,831 ft.

Sun Oil Co.'s No. 2 Smith, W. D. Smith Sur., 75 ft. from W line, 50 ft. from N line of tract ..... Fishing drill pipe 5,408 ft.

Sun Oil Co.'s No. 3 Smith, W. D. Smith Sur., 50 ft. from S line, east offset Yount Lee Oil Co.'s No. 3 Winfree ..... Temporarily abnd. 5,270 ft.

Sun Oil Co.'s No. 1 Anna Higgins, Wm. Bloodgood Sur., 330 ft. from E line and 31 ft. from S line 10-acre tract ..... Drlg. shale 4,151 ft.

The Texas Company's No. 2 Winfree, west flank, W. D. Smith Sur., 264 ft. N, 50 ft. W at right angles out of SE cor. of lease ..... Total depth 5,622 ft.; trying to sidetrack 5,483 ft.

The Texas Company's No. 6 Wilburn, Henry Griffith League, 250 ft. W of No. 4 and 50 ft. from S line of lease ..... Total depth 4,491 ft.; cmtd. 9⅝-in. csg. 4,431 ft.

HUMBLE—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 2 H.E.&W.T., Adams Sur., 250 ft. N along railroad tract from No. 1 and 25 ft. W from center of said tract ..... Total depth 4,742 ft.; shut down.

The Texas Company's No. 25 House (D.D.), M. Owen Sur. ..... Drlg. shale and lime 4,913 ft.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 266 ft. E and 1,545 ft. S of SW cor. Marshall Beauchamp Sur., in the T. J. Notgrass Sur. ..... Rigging up.

The Texas Company's No. 3 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2 .... Location.

MARKHAM—MATAGORDA COUNTY

Ike Laughlin et al's No. 1 W. H. Gray, 400 ft. from S line, 150 ft. E line, Blk. 2, Wm. Hadden Sur. ..... Gumbo 550 ft.; cmtd. 12½-in. csg. 420 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 21 Cade, Fitzsimmons Sur., 150 ft. W of No. 17 ..... Total depth 5,077 ft. in sandy shale; set 1 jt. 4½-in. screen; comp. flowing 700 bbls. pipe line oil, 1,125 lbs. pressure, ¼-in. choke; gravity 31.3°.

HULL—LIBERTY COUNTY

The Texas Company's No. 2 Barrow (W.O.), Jesse Devore Sur., 276 ft. W and 50 ft. S of NE cor. Barrow tract ..... Pulling liner to deepen 3,866 ft.

DAMON MOUND—BRAZORIA COUNTY

Layne et al's No. 8 Wisdom, 165 ft. from NW line and 150 ft. from NE line, Lot 52, Blk. D, Wisdom Subd., A. Darst Sur. ..... Rig.

D. C. Wellock's No. 1 Damon, John P. Mills Sur., 1,115 ft. NE line and 6v ft. W line Blk. 1 ..... Sandy shale 690 ft.; set 4½-in. csg.; shut down.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 1 Davis (D.D.), 50 ft. out of SE cor. of David Kokernot Sur. ..... Drlg. shale 3,465 ft.

ORANGE—ORANGE COUNTY

Gulf Prod. Co.'s No. 1 K. Kishi, J. Dyson Sur., 378 ft. from E line and 334 ft. from S line of tract ..... Abnd. in shale 5,801 ft.

Jefferson Production Co.'s No. 1 Bland ..... Sticky shale 2,925 ft.; shut down.

(Continued on Page 77)

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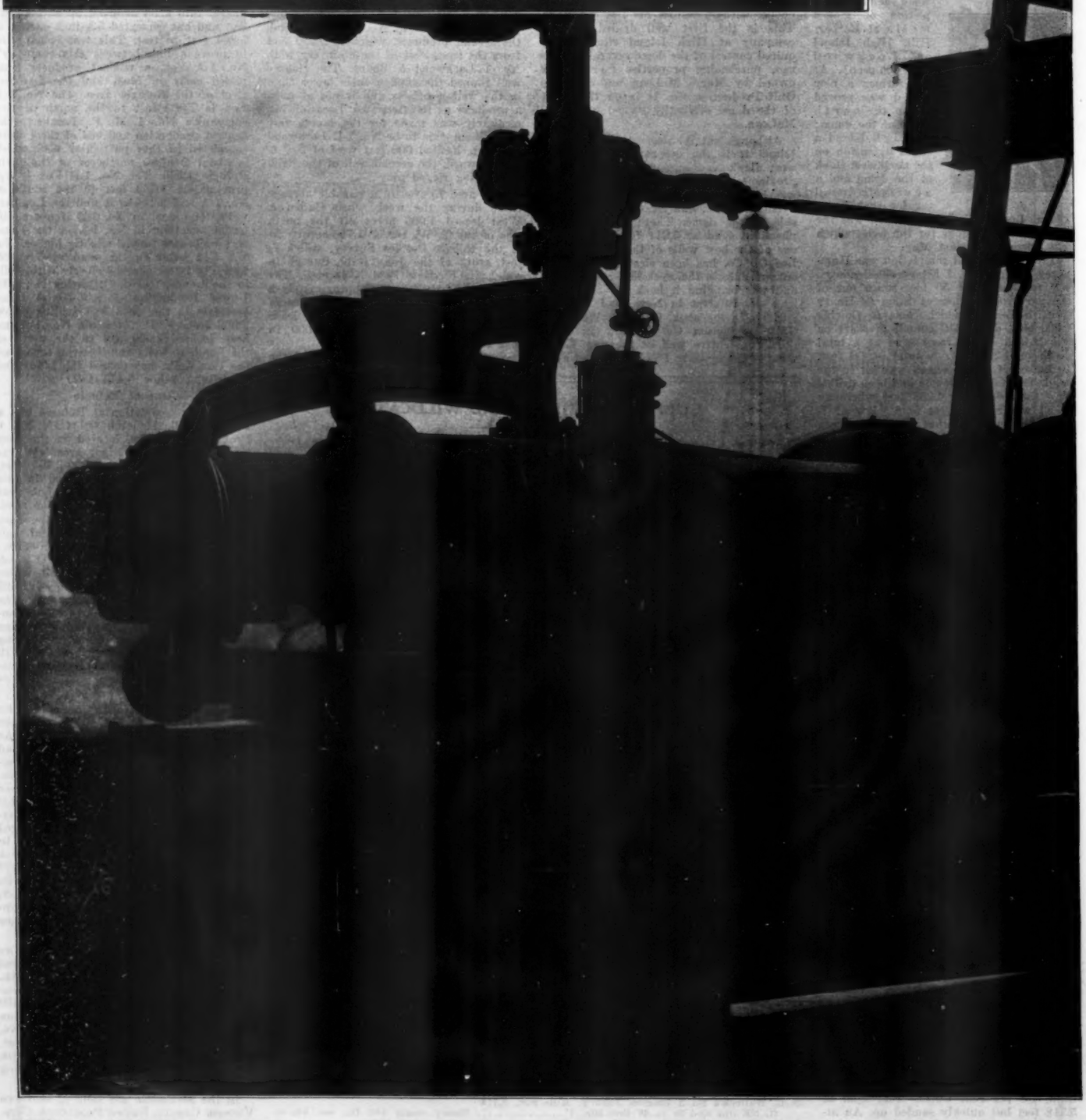

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Stocks in all Active Oil Fields

CHABELCO

New Development Starts in Bee County

J. M. Davis Well, Southwest of Pettus Pool, Producing 300 Bbls. Daily, Prompts Offset Driling by Other Operators

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 3.—J. M. Davis' No. 1 Ray, a mile southwest of the Pettus Pool in Bee County, reported completed two weeks ago and now producing about 300 bbls. of oil daily, has started new development in that part of the country. The T. B. Slick estate, owning the leases north and immediately east of it, has started its No. 1 Ray, 660 feet east of the Davis well and 150 feet from its south line. The Houston Oil Co. owns the next lease south of Slick and will have to start a test soon. The Slick estate will also have to start a test to offset Davis on the north and the Houston Oil Co.'s test will necesaitate Davis drilling a west offset to it. After that it will not be necessary to drill more wells as offsets unless one of the three operators starts something additional.

The Da-Mac Oil Co. has been organized by those associated with J. M. Davis in the drilling of his No. 1 Ray and that lease will hereafter be operated by the company. The Pettus Pool is one of the youngest pools in Southwest Texas but the large recovery per acre from some of the wells thus far is attracting a great deal of attention.

The Southern Crude Oil Purchasing Co. and V. F. Neuhaus' No. 1 Pettus in Goliad, located 15 miles northeast of the Pettus Field, is plugging back. It was reported completed. The sand was had at 4,282-87 feet but the hole was drilled to 4,298 feet without benefit in the way of production but it seems to have gone into water and this is being plugged off.

After first being completed the No. 1 Pettus was estimated to be a 50-bbl. pumper and it then started flowing after being allowed to stand over night and flowed 20 bbls. in 12 hours through three-sixteenths inch choke which made it look better. It had 700 pounds on the casing and 400 pounds on the tubing.

Activity Along Balcones

Throughout Southwest Texas there seems to be a spirit of optimism that conditions are going to be better in the late summer and early fall. It seems to be based on the belief that East Texas will be considerably quieted down by then. There are 20 or more spots over Southwest Texas where production of oil or gas has been found but where no development has taken place because of conditions. There may be some development around these, but the principal expectation is an increase in wildcat activity. Within the last two weeks about a dozen new locations have been made along the Balcones fault east and northeast from San Antonio, which, however, may mean a temporary spurt that will not be followed by additional activity. It is the first time in weeks that so many have been made.

Ralph R. Lewis and others have spudded in their No. 1 Keith McGee, between the Dale and Luling Fields in Caldwell County, for an Edwards lime test which will be watched with interest.

Camp and others have started moving in machinery to drill the No. 1 Sue Denman in the William Arrington Survey about a mile southwest of production in the Darst Creek Field. It is on acreage secured from the Humble and is about a half mile north of the dry hole drilled by the Humble in the Guadalupe River bed. There are no dry holes between if and production in the Darst Creek Field. It will be an Edwards lime test also.

In western Guadalupe, 4 miles north of Marion, Linne and others, who announced a location some months ago, have started drilling.

Witherspoon Locations for Tests

In eastern Bexar County Witherspoon Oil Co. has made a deal to take over acreage in the Penn Oil Co. block on which the company drilled the No. 1 Cooksey which is a pumper and the discovery well at around 1,400 feet. Witherspoon has made locations for two tests on leases north of the No. 2 Cooksey and will drill one test on each lease in its block to prove up the leases and discover how big the field is but will not seek to develop production at this time. The oil is from the Taylor marl.

Four new locations have lately been announced in Bell County at the north end of that part of the fault zone that is south of the Brazos River, and Taylor Production Co. is making a location in western Milam County to drill for serpentine in the George Hayden Survey.

Some new activity has started up in northern Travis County. Waldron and others' No. 1 Cook, which has been standing for months, has started drilling. Ray & Henze, of Austin, has spudded in the No. 1 Hatech in the S. Hamilton Survey and Fritz Fuch has made a new location in the eastern central part of the county. These Travis wildcats are mainly in the hope of finding serpentine plugs. In northern Bastorp County just next east from northern Travis, W. H. Champion has a location made in the center of the Ray 95-acre farm in the Thomas Christian Survey, a mile north of Elgin.

All told there were 23 new propositions in Southwest Texas last week, an unusual number for such dull times.

Corpus Christi Area

Southern Crude Oil Purchasing Co., which reached contract depth at 3,500 feet in its No. 1 Stratton, a few miles south of the Agua Dulce Field in western Nueces County, has started to drill deeper and is down around 3,600 feet or below.

In the Saxet Field, Gulf Coast Oil Co.'s No. 1 Harrell has been finding sands with some favorable showings but not enough for a well and is now down to 4,626 feet and drilling in lime. This test is the farthest north in the Saxet Field and it made a gas well with an initial production of 150 bbls. of oil when first completed at 4,095 feet. Being on the north edge of the Saxet area the deepening gives a considerable additional line of information on the field for the lower sands.

There is disappointment in San Patricio County, 15 miles north of the White Point Field, where the second test drilled has seemed to miss the pay. The discovery well of the Aransas Oil Corp., completed some months ago, got the pay at 3,634 feet and came in for 50,000,000 feet of gas. Welder Oil Corp.'s No. 1 Welder, the first test to be drilled since, and located 1,500 feet south and 800 feet east of it, is below 3,700 feet and with no production.

Also there is disappointment in the Cartwright or Mount Lucas Field in

(Continued on Page 83)

SOUTHWEST TEXAS PROVEN AREAS

COOKSEY POOL—BEXAR COUNTY

Company, farm and location—	Remarks:
Witherspoon Oil Co.'s No. 1 Knapick, 412 ft. W of CEL in J. W. Riall Sur.	Rigging up.
Witherspoon Oil Co.'s No. 1 Anoil, 412 ft. W of CEL of tract in J. W. Riall Sur.	Rigging up.

DOBROWOLSKI POOL—BEXAR COUNTY

W. S. Rogers et al's No. 1 L. Donnop, Juan Montez Sur.	T. D. 612 ft.; shut down.

BRUNER POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, A. Floyd Sur.	T. D. 2,572 ft.; setting csg.

DARST CREEK FIELD—GUADALUPE COUNTY

Magnolia Pet. Co.'s No. 8 M. T. Klein, 300 ft. SE of No. 1	T. D. 1,600 ft.; drlg.

CHAPMAN POOL—WILLIAMSON COUNTY

Chapman et al's No. 2 Lawrence, S. Miller Sur.	T. D. 1,916 ft.; set 6⅝-in. csg.; waiting on cement.
Vitex Oil Co.'s No. 8 Kilgore, Simon Miller Sur.	T. D. 1,735 ft.; waiting on cement.
Westbrook Oil Corp.'s No. 8-A Lawrence, 150 ft. from S and E lines of tract in S. Miller Sur.	Location.

PETTUS POOL—BEE COUNTY

J. L. Mauldin's No. 1 fee, 1,300 ft. N of S line, 150 ft. E of Medio Creek, Kerr Sur.	T. D. 3,930 ft.; standing.
Geo. N. Moore et al's No. 2 Freeland in John Pace Sur., 1,000 ft. from S line, 600 ft. from E line of survey	T. D. 4,394 ft.; standing.
United Prod. Co.'s No. 39 Ray, 1,130 ft. to SE line, 2,396 ft. to SW line of T. Hanson Sur.	T. D. 2,558 ft.; drlg.
T. B. Slick, estate's No. 1 Ray in Kerr Sur., 330 ft. E of most easterly W line, 150 ft. N of S line of survey	Location.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 14 Cartwright, 1,000 ft. W of No. 23 Cartwright	T. D. 4,525 ft.; drlg.
Houston Oil Co.'s No. 23 Cartwright, 691 ft. N, 30 degrees E of No. 11	T. D. 3,565 ft.; pumping 100 bbls. oil.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim	T. D. 4,350 ft.; drlg.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Maggie Harrall, 330 ft. from S and W lines of Blk. 22, Sec. 311	T. D. 4,626 ft.; drlg.
Houston Oil Co.'s No. 1 Lawrence	T. D. 3,850 ft.; drlg.
Houston Oil Co.'s No. 2 Rand Morgan	T. D. 6,375 ft.; plugged back to 4,084 ft.

LAREDO DISTRICT
KOHLER POOL—DUVAL COUNTY

Humble Oil & Refining Co.'s No. 50 Kohler, 2,805 ft. from S line, 165 ft. from W line of Sur. 164	T. D. 6,990 ft.; drlg.

COLE POOL—WEBB COUNTY

F. P. Zoch and Trinity Drillers' No. 1 Cuellar, 1,200 ft. from NW and SW lines of Share No. 2, W of Bruni	T. D. 2,065 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

George S. Marshall's No. 1 Benavides, 660 ft. from S line, 150 ft. from E line of Sur. 693	Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks—
Tom Draper's No. 1 Trueblood, 250 ft. from N line, 1,440 ft. from W line of tract, John Neill Sur.	T. D. 650 ft.; shut down.
Glen Mathis, trustee's No. 1 Martin, 150 ft. to NE line, 2,640 ft. to SE line of tract in Jose Antonio Navarro Sur.	T. D. 2,012 ft.; fishing.

BLANCO COUNTY

Hardy-Sitton's No. 1 McMillan	T. D. 696 ft.; fishing.
Liles-Adams et al's No. 1 Stanford, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T. D. 1,115 ft.; drlg.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T. D. 574 ft.; shut down.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,260 ft. to N line, Sur. No. 94	T. D. 712 ft.; shut down.

BASTROP COUNTY

W. A. Allen's No. 1 Birmingham, James Stewart Sur.	T. D. 235 ft.; shut down.
W. H. Champion's No. 1 Ray, center of 95-ac. tract in Thomas Christian Sur.	Location.
Schimmel & Batts' No. 2 Williams, 650 ft. E of their No. 1 Ferguson	T. D. 1,808 ft.; abnd.
Smith & Barnes' No. 1 Marberger, 50 ft. W line, 1,360 ft. S line of tract in King & Millett Sur.	T. D. 515 ft.; drlg.
Texas Dev. Co.'s No. 1 C. H. Ray, 800 ft. from W line and 400 ft. from S line of farm in Thos. Christian Sur.	Derrick.

BELL COUNTY

Mildon Oil Co.'s No. 1 J. K. Edds, Maxiano Moreno Sur.	T. D. 875 ft.; set 6⅝-in. csg. at 860 ft.
C. O. Alford's No. 1 A. L. Keifer, 150 ft. from S and W lines of tract in Woodford Sur.	Location.
Vilas Oil Co.'s No. 1 B. F. Whittington, 9 miles E of Holland	T. D. 1,298 ft.; shut down.

BROOKS COUNTY

Ike Howeth's No. 1 Singer, 400 ft. E of Humble's No. 1 Singer	T. D. 2,230 ft.; no report.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore	T. D. 1,510 ft.; standing.
Grebin & Woods' No. 1 Riggs, 4,800 ft. to E line, 200 ft. to N line of James Nowland Sur., 6 miles W of Skidmore	T. D. 5,650 ft.; abnd. dry.
Mauldin et al's No. 1 Kimball, 300 ft. S Grayburg's No. 1-A Kimball, S. Winship Sur.	T. D. 3,544 ft.; fishing.

BEXAR COUNTY

Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio	T. D. 850 ft.; drlg.

CALDWELL COUNTY

Ralph R. Lewis' No. 1 Keith McGee, 600 ft. from E and S lines of tract in J. Pinchback Sur.	Spudded in.
Mills et al's No. 1 McMahon, 375 ft. SW line, 75 ft. SE line of tract, J. Pinchback Sur.	T. D. 2,502 ft.; shut down.

COMAL COUNTY

Caldwell & Lanier's No. 1 T. J. Byler, 175 varas from W line, 370 varas from N line of 320-ac. tract in the H.E.&W.T.. No. 5,894 Sur.	T. D. 722 ft.; trying to set csg. on bottom.

(Continued on Page 74)

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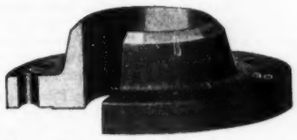

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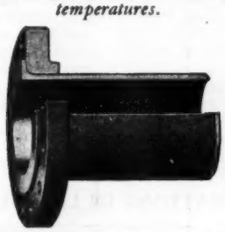

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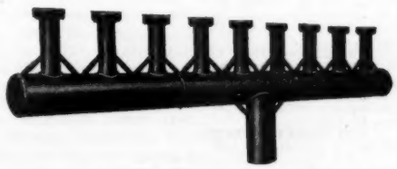

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Mississippi Has Three Completions

All Gas Wells in Jackson Field. Union Parish, Louisiana, Gets 30,000,000-Foot Gasser. Promising Zwolle Test

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 3.—All of the four successful completions in this division during the week were gas wells, the Jackson Field of Hinds and Rankin Counties in Mississippi furnishing three, and Union Parish in North Louisiana reporting one. As predicted last week the Mississippi Field was due several completions as several wells were ready to test after setting casing. The best well of the group was Union Drilling Co.'s No. 1 Pate Royalty Co. in Section 12-5n-1e, Rankin County, with an initial flow of 49,528,000 feet of gas from 2,391 feet. The new gasser was generally conceded to be on the southeastern edge of the producing area in Rankin County, across Pearl River from Hinds County, and its large initial flow has raised the estimate of the potential output of this field. The Hopkins Gas Co. completed its No. 1 Ridgeway in Section 2-5-1e, Hinds County, about 2 miles northwest of the Union Drilling Co.'s well, gauging 10,000,000 feet from 2,474 feet, with a small spray of salt water. The other completion in this field was Atkinson & Dyer's No. 1 Downing and others, Section 27-6-1, with an estimated initial flow of only 1,000,000 feet from 2,545 feet. This well is in the SE cor. SW of the section and an extreme northern extension of the Hinds County Field.

In Union Parish of North Louisiana, the United Gas Public Service Co. completed its No. 2 Stevens, Section 36-21-3e, with an initial flow of 30,708,000 feet of gas and 390 pounds rock pressure from 2,151 feet. The Zwolle Field of Sabine Parish reported a dry hole with the completion of Loring Oil Co.'s No. 16 Bowman-Hicks, Section 3-7-12 at 2,727 feet. In Ouachita County, Arkansas, Copenhaven and others abandoned their No. 1 Elliott, Section 11-15-17, at 2,210 feet. This well was started in September, 1930, and has been shut down since April of this year.

Promising Test in Zwolle

The Loring Oil Co.'s No. 17 Bowman-Hicks in Section 16-7-12, of the Zwolle Field, originally stopped as a 6,000-foot test, is practically sure of being a good well from the regular producing horizon. A drill stem test at 2,566 feet resulted in a head of oil going over the derrick, and arrangements are being made to set 9-inch casing on top of the Zwolle marl at 2,530 feet. The 9-inch casing is being set for the test in place of 6-inch so that the hole may be drilled to the depth originally planned if production is not sufficient from the lesser depth. Two other wells in this field are on top of the pay, the Magnolia Petroleum Co.'s No. 1 Peterson, Section 10-7-11, having set 8-inch casing at 2,370 feet, and The Texas Company's No. 1 Nabours, Section 2-7-11, with 6-inch casing on top of the marl at 2,368 feet. In Union Parish, T. P. Fields and Ruston Drilling Co. made a drill stem test at 2,174 feet on their No. 1 Summitt Land Co., Section 21-21-1w, resulting in salt water and no show of gas. The hole was deepened to 2,534 feet where 3 feet of gray sand was encountered and another test will be made at this depth. The Gulf Refining Co. is making good progress on its No. 1-A Bodcaw Lumber Co. in Section 4-10-5w, Winn Parish, the latest drilling report giving them 3,780 feet in lime and shale.

Very few rigs are active in Arkansas. The Star Oil Co.'s No. 1 Cunningham, Section 11-5-16, Hot Springs County, lost the drill bit and collar in the hole at 1,305 feet, the hole being junked at this depth and the derrick skidded 30 feet south. They have set 12-inch surface casing in the new test at 62 feet and are drilling at 948 feet. In Lincoln County, Lawrence B. Cook's No. 1 McGhee Planting Co., Section 5-8-7, set 10-inch at 1,294 feet and is now drilling at 2,198 feet. The deep test of the Lion Oil Refining Co. in Section 4-16-15, Union County, cored salt water sand with streaks of dead oil from 4,858-60 feet. The test will be drilled to 5,000 feet or more and will prove whether the Trinity formation will produce in the Smackover Field.

The Ryan Consolidated Petroleum Corp. has set 6-inch casing in its No. 1 Key, E. Carroll Survey, Harrison County, in East Texas at 5,282 feet. The well is the first Trinity test to be drilled in Harrison County or any area north of the Bethany Field in Panola County, and is being followed with much interest. The Arkansas-Louisiana Pipe Line Co.'s No. 14 Werner, B. C. Jordan Survey, in the Panola Gas Field, was the leading disappointment of the week. The well, which was expected to be another good gasser from the upper Trinity of that field, tested salt water in large amounts with practically no gas showing. Bailing was begun at 4,718 feet and the hole deepened and tested to 4,754 feet with no change in results.

Daily Average Production

There was a net decrease of 3,035 bbls. in the daily average of North Louisiana and Arkansas fields during the past week. North Louisiana dropped 1,080 bbls. and Arkansas fell 1,955 bbls.

Daily average for the several pools follows:

NORTH LOUISIANA	
Caddo, light	6,540
Caddo, heavy	2,325
Homer	2,820
Haynesville	5,050
DeSoto and Red River	2,455
Elm Grove	480
Cotton Valley	340
Urania	3,810
Pleasant Hill	370
Sarepta-Cartersville	940
Zwolle	6,755
Holly	475
Total	32,360
Total previous week	33,440
Decrease	1,080
ARKANSAS	
El Dorado	3,440
Smackover, light	3,290
Smackover, heavy	27,410
Stephens	510
Nevada	1,100
Lisbon	520
Champagnolle	2,260
Urbana	100
Total	38,630
Total previous week	40,585
Decrease	1,955
Total both states	70,990
Total previous week	74,025
Decrease	3,035

Clay County, Miss., Test

In Clay County, Mississippi, the Ohio Oil Co. is reported to have gone 18 inches into a good gas sand at 4,477 feet on its No. 1 Cantrell, Section 16-15-5. Heavy mud was pumped into the hole to kill the pressure and the operators are arranging to set 7-inch casing at 4,474 feet. The well is being drilled with cable tools on a large block of acreage assembled by that company.

The Pelican Natural Gas Co. is building derrick on its No. 1 Long Bell Lum-

(Continued on Page 88)

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location— Remarks:

Arcadia Drlg. Co.'s No. 1 Atkins, 175 ft. W, 120 ft. N, SE cor. NW NE, Sec. 27-13-6 — Drlg. lignite 1,215 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-23-14 — Flowing by heads 2 bbls. 2,890 ft.

Flint River Oil Co.'s No. 1 DeMoss, 200 ft. S and E, NW cor. SE NW, Sec. 22-22-13 — Bailed dry 3,046 ft; W.O.

Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11 — S.D. 1,185 ft. (corrected).

D. L. Perkins' No. 1 Ardis & Co., 1,137 ft. N, 198 ft. E, SW cor., Sec. 13-15-11 — S.D. 1,000 ft.

Rembaugh et al's No. 1 Allison, SW SE, Sec. 10-19-13 — S.D. 1,600 ft.

CADDO PARISH

United Gas Public Service Co.'s No. 1 M. K. Smith, 660 ft. S, 2,640 ft. W, NE cor., Sec. 33-23-16 — Drlg. 7-in. plug 5,404 ft.

W. P. Wallace, tr.'s No. 2 Cunningham-O'Conner, 210 ft. S, 940 ft. E, NW cor., Sec. 15-17-14 — Drlg. 720 ft.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4 — Derrick.

Hudson et al's No. 1 Burton, Sec. 35-12-2e — S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6 — T.A. 3,097 ft.

DE SOTO PARISH

Keatchie O. & G. Co.'s No. 1 Hallie Smith (was H. E. Weichert's), NE SE, Sec. 31-14-15 — S.D. 2,350 ft.

S. S. Meek, tr.'s No. 1 Wagner, 300 ft. S and E, NW cor. SE NW, Sec. 5-12-14 — Drlg. 1,836 ft.

Ben Merritt, tr.'s No. 1 Williams, NE cor. SW SW, Sec. 19-12-13 — Set 6-in. csg. 2,580 ft; T.D. 2,657 ft.

E. T. Oakes' No. 1 R. H. Bryant et al 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15 — S.D. 2,011 ft.

Rellitt Oil Co.'s No. 1 Gannon hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16 — S.D. 1,410 ft.

Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13 — S.D. fuel 700 ft.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10 — T.A. 4,091 ft.

J. W. Cooper et al's No. 1 Cooper, NW SW, Sec. 35-11-10 — S.D. 3,156 ft.

Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10 — S.D. 1,518 ft.

C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 — Tested dry; S.D. 1,380 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 — Spudded in; S.D. 50 ft.

Mack Jourden Co.'s No. 1 Lockett, 4,035 ft. S, 1,980 ft. E, NW cor. SW, Sec. 29, in Sec. 32-13-10 — S.D. 2,500 ft.

(Continued on Page 74)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location— Remarks:

J. T. McCormick's No. 1 C. B. Christian, 330 ft. S, 300 ft. W, NE cor. SW, Sec. 27-21-15 — S.D. 1,335 ft.

Shreveport Oil Corp.'s No. 3-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15 — S.D. 2,135 ft.

Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15 — Set 10-in. 150 ft; S.D.

CADDO PARISH—GREENWOOD AREA

Pyramid O. & G. Co.'s No. 2 Breard, 723 ft. S, 660 ft. E, NW cor., Sec. 10-18-16 — Rigging up.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 300 ft. S, NE cor., Sec. 2-20-4 — Location.

OUACHITA PARISH

Ark.-La. P. L. Co.'s No. 7 McEnnery, 700 ft. N and W, SE cor. SE, Sec. 29-19-4e — Set 15½-in. 110 ft; drlg. 1,790 ft.

RICHLAND PARISH

Hope Prod. Co.'s No. 1 McCoy hrs., 660 ft. W, 1,980 ft. S, NE cor. NW, Sec. 29-16-6 — Arranging to test 2,400 ft.

Southern Carbon Co.'s No. 4 Rosengraut & Ducomb, 1,320 ft. S, 660 ft. W, NE cor., Sec. 19-17-6 — Drlg. red gumbo 2,430 ft.

Southern Carbon Co.'s No. 5 Rosengraut & Ducomb, 1,300 ft. N, 2,089 ft. W, SE cor., Sec. 24-17-5e — Set 6-in. 2,285 ft; W.O.C.

Southern Carbon Co.'s No. 6 Rosengraut & Ducomb, 2,640 ft. E, 1,980 ft. N, SW cor., Sec. 19-17-6 — Rigging up.

United Carbon Co.'s No. 1 Faust Lbr. Co., 1,320 ft. S, 1,980 ft. E, NW cor. SW, Sec. 13-17-5 — Began July 21; set 12-in. 184 ft; drlg. 602 ft.

United Gas Public Service Co.'s No. 5 Marshfield, 660 ft. N and E, SW cor., Sec. 19-17-6e — Set 6-in. 2,300 ft.

United Gas Public Service Co.'s No. 1-A Wayne Land & Timber Co., 1,320 ft. S, 697 ft. E, NW cor., Sec. 24-17-5e — Drlg. 1,940 ft.

SABINE PARISH—ZWOLLE

Roy Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12 — S.D. 2,440 ft.

W. M. Coates' No. 1 Bowman-Hicks, 330 ft. S and W of C, Sec. 2-7-12 — Location.

Dengall O. & G. Co.'s No. 1 Nulton, SE cor. NW NE, Sec. 1-7-13 — Derrick pattern.

Hawkins et al's No. 1 Moran, Sec. 1-7-11 — 400 ft. oil in hole 2,620 ft; W.O. S.R.

O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 — Tested dry; S.O. 2,400 ft.

Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 — S.D. 2,550 ft.

Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 — Began July 18; set 10-in. 101 ft.

Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 — S.D. for fuel 1,500 ft.

Loring Oil Co.'s No. 16 Bowman-Hicks, 660 ft. W, 200 ft. S, C, Sec. 3-7-12 — Dry and abd. 2,727 ft.

Loring Oil Co.'s No. 17 Bowman-Hicks, 1,600 ft. S, 375 ft. W, NE cor., Sec. 16-7-12 — Arranging to set 9-in. 2,530 ft; T.D. 2,566 ft.

(Continued on Page 76)

Good Producer Likely in Border Field

Askalta Oil Co.'s No. 1 Farbo Makes 68 Bbls. the First Hour and Is Being Drilled Deeper. Eddy County Output Rises

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Aug. 3.—A well in the Border Field of Montana, the Askalta Oil Co.'s No. 1 Farbo, is being watched with interest, as it gives promise of being a good one. It made 68 bbls. the first hour and is being drilled deeper. Results in two Dry Creek Dome wells were not as favorable as in the discovery well.

Better prices for crude in Eddy County, New Mexico, stimulated production somewhat, but did not bring it back to normal. Two new locations were made in the Dayton district. The Warman Oil Trust's test in Chaves County is temporarily abandoned and plans are under way for another.

The Reiter-Foster Oil Co.'s test in northeastern Colorado is nearing completion and with this development is an increase in talk of pipe lines and refineries. There were no new locations or completions reported.

The Cross cracking unit of the Midwest Refining Co.'s plant at Greybull, Wyo., nearing completion, will increase the market for black oil in the Big Horn Basin. A deep test is to be drilled in West Mule Creek, a 15,000,000-foot gasser was completed in Lance Creek and the second well to reach the Lakota in the Big Muddy Field is on top of the pay.

MONTANA

Toole County

The Askalta Oil Co.'s No. 1 Farbo, SE cor. NE, Section 2-37-4w, in the Border Field, gives promise of being a good producer upon completion. The well made 68 bbls. natural the first hour after drilling the Cosmos sand at 2,505-38 feet. It will be drilled deeper before finishing, however, in hopes of increasing production. The Sunburst and Vanalta sands had shows of oil and water. It is an offset on the north to the Iowa company's No. 1 Cosmos, which started most of the development in the Border Field. The well is located upon a 30-acre tract taken over last May by the Askalta company from the Mid-Continent Oil & Refining Co. The only other active operation in this pool is Oil Drillers, Ltd.'s No. 1 Farbo, NE SE SE, Section 3-37-4w, which is drilling at 2,440 feet after landing the 6¼-inch.

Carbon County

The Ohio Oil Co.'s No. 1 Montana Industrial, SE SW NE, Section 11-7s-21, Dry Creek Field, an offset on the north to the discovery well in the Lakota and the second well on the structure to reach that horizon, is being tested for gas in the Dakota after plugging back from the top of the Lakota at 5,581 feet to 5,439 feet. Same company's No. 1 Souders, C SW SE, Section 2-7-21, half a mile to the north, is testing gas production in the second Frontier after plugging back from 4,409 feet to 4,003 feet. It will be completed as a gas well. The Ohio's No. 1 Chapman, C SW¼ SW, Section 2-7-21, is standing at 839 feet. The Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW, Section 7-7-22, is drilling at 4,020 feet in shale.

Glacier County

There were no completions reported in the Cut Bank Field, although several of the wells are on top of the sand. One new operation was started in L. B. O'Neil's No. 2 Michaels, C SW NE, Section 33-36-5w, half a mile southwest of the discovery well. It is rigging up. Status of other operations of O'Neil, as trustee for the Montana Power Co., is as follows: No. 1 Schneider, C NE SE, Section 32-36-5, had a good show of oil above the gas sand and 1,500,000 feet of gas in the sand. It is considerably lower than the other producing wells on the structure and is considered a failure as far as the regular gas producing sand is concerned. While depths of sands are not being reported, the 6¼-inch was landed at 2,935 feet. No. 1 Berger, C SE NE, Section 2-35-5, is drilling at 2,700 feet, and No. 1 Hughes, C NW SE, Section 3-35-5, is drilling at 2,645 feet. No. 1 State, C NE NW, Section 11-35-5, is spudding at 200 feet, and No. 1 State, C SW SW, Section 36-36-5, is bottomed at 2,600 feet and resuming after drilling up bailer. No. 2 State, C NE SW, Section 33-36-5, is spudding at 350 feet.

The Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36-12w, Milk River district, is drilling at 2,570 feet after cementing off a cave.

Liberty County

G. G. Howard and others' No. 1 Lange, C SE SW, Section 7-36-6e, Bear's Den area, had 7,000,000 feet of gas per day at 2,006 feet and is drilling at 2,020 feet. It may go to the Ellis-Madison contact before being completed. This well extends the field half a mile to the north. Howard's No. 2 Schoonever, C SE NE, Section 13-36-5e, is ready to spud, and his No. 2 Ritter, C NE SE, Section 12-36-5e, is rigging up. The Liberty Gas Co.'s No. 1 McDowell, C SE SW, Section 13-36-5e, cemented the surface pipe at 120 feet for the third time. The People's Oil & Gas Co.'s No. 1 First National Bank, C SE NW, Section 17-36-6e, is shut down for pipe at 1,285 feet.

Cascade County

The Andover Oil Co.'s No. 1 Flowree, NW cor. SE, Section 20-21-2w, Big Coulee, is drilling at 2,200 feet with 1,200 feet of sulphur water in the hole.

Teton County

The Earl Oil Corp., Ltd.'s No. 1 Gad, SE cor. NE, Section 22-22-8w, Sun River, is drilling at 3,350 feet, and the Trans-American Oil Co.'s No. 1 Lackey, SE NE NW, Section 28-24-8w, Teton district, is drilling below 430 feet in the Madison lime. The California Co.'s No. 1 Sullivan, NW NE NW, Section 34-27-7w, Bynum district, is drilling at 820 feet.

Rosebud County

The Prairie Oil & Gas Co.'s No. 1-XX, Contract 4, NE SW NW, Section 26-10-39, is building rig.

NEW MEXICO

Eddy County crude prices advanced by the Continental Oil Co. have stimulated production to some extent but are not expected to bring it back to normal. Some of the wells which were shut in when the price dropped to 10 cents will be opened up every other day while others will remain closed down.

Eddy County

Two new locations in the Dayton district were made this week by J. O. Hammond & Son in their No. 1 Olson, NE SE, Section 33-18-26, and No. 1 Arbuckle, NW SW, Section 34-18-26. R. D. Compton's No. 4 Brainard, C N half SE SE, Section 5-18-27, Artesia district, is spudding at 100 feet.

Lea County

The Western Drilling Co.'s No. 1 State, SE NE NE, Section 16-20-32, northwest of the Lea Pool, is bottomed at 3,208 feet in lime and running the 6⅝-inch. Culberson & Conrad's No. 1 State, C NE, Section 22-18-34, Caprock area, is bottomed at 3,260 feet and has drilled up bailer. Cave at 1,760-2,140 feet was cemented with 285 sacks and it is bailing to test cement.

Chaves County

The Warman Oil Trust's No. 1 Seibert, NE, Section 27-13-24, Blackdom district, after plugging back from 2,686 feet to 2,050 feet, is pulling the 5⅞-inch and will abandon the hole temporarily without plugging. It is planned to drill another well to the south of this location. No. 1 Seibert had a show at 2,039-50 feet which was shot without getting commercial production.

Otero County

The Pasotero Petroleum Corp.'s No. 1 Evans, NW cor. SW, Section 22-24-12, is shut down for drilling line at 2,375 feet.

Guadalupe County

The New Mexico Producing & Refining Co., Ltd.'s No. 1 McMillan, SW cor., Section 24-5n-16, is shut down at 1,818 feet in salt and red rock to run the 12½-inch.

Roosevelt County

C. S. Peterson and others' No. 1 Good, NW SE NE, Section 32-5s-30, Kenna Dome, is about ready to begin spudding. Location was made about four months ago and steel derrick was erected and tools moved in. Peterson has a contract with seven men who control 15,000 acres, the owners uniting in a community lease out of which spreads were being sold to finance a 5,000-foot test. The structure lies partly in Roosevelt and partly in Chaves County.

Valencia County

Thomas B. Harlan and others' No. 4 Harlan Ranch, NW NE NW, Section 5-6n-2e, is shut down for orders at 3,800 feet, the contract depth having been reached. It probably will be drilled deeper.

Luna County

The Angelus Oil & Mining Co.'s No. 3 State, C NW SE, Section 20-21-10w, near Deming, is drilling at 6,126 feet. The formation has not been definitely identified as to whether it is Pennsylvanian or Mississippian.

COLORADO

Weld County

Rapid progress has been made in cleaning out the cement in the Reiter-Foster Oil Co.'s No. 1 Ida Johnson, C NE NW, Section 24-6n-61, Greasewood Dome, and 4,600 feet of it had been drilled out of the string of 9⅝-inch pipe up to last report. It is expected that the work will be completed either tonight or tomorrow as it is estimated that the cement lacked about 800 feet of reaching bottom. The total depth is 6,226 feet, at which depth casing was being set when circulation was lost and the pipe was filled almost to the top. Superintendent Taylor, of the Halliburton Oil Well Cementing Co., arrived at the well yesterday by airplane to supervise the final work. It will be decided as soon as bottom of the hole is reached whether another attempt will be made to cement the 9⅝-inch or run the 7-inch. At the present depth it is estimated that the well has only 400 to 500 feet to go to reach the Muddy sand, the first objective. While the Reiter-Foster company lost nothing by the accident, it was delayed in completing this well and is moving in

(Continued on Page 89)

MOST OF CANADA'S NEW DRILLING IS CONFINED TO SOUTH TURNER VALLEY

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 1.—New drilling activity in Canadian fields is pretty well confined to South Turner Valley. Following the Merland Oil Co. strike interest has been shown in the far south end of the field. In addition to Sterling Pacific's No. 2, two independent tests are under way in this area. The latest development is resumption of drilling on the test of William Livingston and associates in LSD 5, Section 34-18-2w5, half a mile north of Merland's No. 1 producer. This test has been standing for several months at 1,500 feet. The drill is now working below 1,550 feet. Union Drilling Co. is handling the contract and cable tools will be used, changing to rotary outfit for the deeper drilling. Location is in N half LSD 5 on acreage subleased from the Anaconda Oil Co.

In the same general area, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is drilling below 1,170 feet.

In the Mercury area, Hylo Oils' No. 1, N half LSD 12, Section 4-19-2w5, is drilling around 2,800 feet after setting 13⅜-inch casing at 2,670 feet. The test is apparently logging high in comparison with Mercury's No. 1 producer about 1,000 feet to the northeast.

Miracle Oils' No. 2, LSD 16, Section 5-19-2w5, is drilling in the Kootenays at 3,809 feet. Miracle's No. 3, LSD 11, Section 4-19-2w5, is drilling at 2,830 feet.

In South Turner Valley, Imperial Oil, Ltd., has only two tests active with a third standing. Southern Lowery's No. 3, LSD 4, Section 9-19-2w5, is drilling at 4,777 feet. Sterling Pacific Oil Co.'s No. 2, LSD 10, Section 33-18-2w5, is drilling at 2,521 feet. South West Petroleum Co.'s No. 2, Section 8-19-2w5, is standing cemented at 5,407 feet. No new work is projected by Imperial Oil, Ltd., for the immediate future.

Alberta Production Figures

Production figures issued by the Alberta provincial government for June show a decline of 8,703 bbls. from those for May for the entire province. Following are the totals:

Field—	June, 1931	May, 1931	June, 1930
Turner Valley naphtha	126,402	135,582	100,719
Turner Valley light crude	1,300	1,779	4,414
Red Coulee light crude	5,945	6,485	3,282
Wainwright heavy crude	1,071	1,225	722
Ribstone heavy crude	2,212	262	325
Skiff heavy crude	.....	.....	1,199
Total	136,930	145,633	110,661

The returns show an increase of 26,269 bbls. over June, 1930, for all the Alberta fields; but as compared with May the only field to show an increase was Ribstone, which has been placed on a steady marketing basis and will probably do somewhat better. The Skiff Field, productive in a small way a year ago, is now inactive. The decline in Turner Valley is in part due to the preliminary

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Gloom in California Beginning to Lift

Outlook Brightened by Drop in State's Daily Oil Production to 490,000 Bbls. for the First Time Since 1922

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 5.—The gloomy outlook which the California oil industry has seen for more than a year has been brightened by a drop in the State's daily production to 490,000 bbls. and the probability that it will be reduced below the maximum allowable of 487,500 bbls. within the next few weeks. This is the first time since 1922 that state production has gone below 500,000 bbls. per day. A decided improvement has also been manifested in the refined oil market and, if producers sit tight and continue to maintain effective curtailment, higher prices are in sight for both crude and refined oil. It is recognized, however, that rigid curtailment and adoption of stringent ethical marketing practices are imperative. At no other time within the past two years has the situation been so well in hand and the goal so close to achievement, but these encouraging conditions can be upset over night by unethical conduct on the part of either producers or refiners.

The average daily production for the past week was slightly higher than the 490,000 bbls. mentioned because of the fact that maximum curtailment was not effected until a few days ago. With the exception of Santa Fe Springs and Playa Del Rey, practically every field in the State is either down to or below the maximum allotment. The daily excess of approximately 7,000 bbls. at Santa Fe Springs and 8,000 bbls. at Playa Del Rey is offset by the accumulated underage in other areas. If the proposed plan of creditors involving properties at Playa Del Rey is carried out, most of the present excess production of this field will be eliminated. Creditors have proposed a form of unit operation at Playa Del Rey and if companies in receivership agree to this plan the situation will be greatly relieved. A meeting of Santa Fe Springs operators is to be held early this month in an effort to reduce the production of that field to the prescribed allotment of 55,000 bbls. per day. If the excess production of these two fields is eliminated, state production will be well below the State's allotment of 487,500 bbls. per day established by the economic survey completed earlier this year.

Kettleman Hills Operators Prompt

Kettleman Hills operators did not lose any time in reducing the production of this field to the allotted 60,000 bbls. per day after final plans had been ratified. This field has been down to 60,000 bbls. for the past several days and operators have agreed to keep the production of the North Dome down to this figure for the rest of the current year. The general committee on statewide curtailment allotted Kettleman Hills 60,000 bbls. per day early in June and subsequently split up the allotment among the individual operators. Under this set-up, the Standard and Kettleman North Dome Association was given a combined allotment of 45,000 bbls. per day. The Union and Superior were allotted 4,000 bbls. per day each, the Petroleum Securities 3,000 bbls., Associated 2,300 bbls. and Shell 1,700 bbls. per day, respectively. A special committee made a further division in this total allotment of 60,000 bbls. per day and prescribed the allowable production of certain areas within the field.

In the so-called Huffman area, which is in the extreme western part of the Kettleman Hills structure, the Union and Superior were allowed to produce 4,000 bbls. per day each. The Kettleman North Dome Association was given a daily allotment of 7,000 bbls. in this area to be produced by the association's well No. 8-28 J, pending completion of wells Nos. 4 and 25. When the latter two wells are completed they will be given a combined allotment of 7,000 bbls. per day, at which time well No. 8-28 J will be killed. The Standard was also given a daily allotment of 7,000 bbls. in the Huffman area, this production to be secured from well No. 34-29 J and No. 85-29 J.

In the Felix area, the Petroleum Securities will be permitted to produce 3,000 bbls. per day, the Associated 2,300 bbls. daily, Shell 1,700 bbls. daily, Standard 3,700 bbls. daily and the Kettleman North Dome Association 10,700 bbls. per day. The 3,700 bbls. allotted to the Standard must be produced by wells Nos. 38 and 47, unless these projects are incapable of doing so, in which event a readjustment will be necessary. The 10,700 bbls. per day allotted to the Kettleman North Dome Association is divided among three wells. No. 41-2 P will be allowed to produce 3,000 bbls. per day, No. 2-1 P 3,000 bbls. per day and No. 23-1 4,700 bbls. per day.

Huffman Area Allowable

In conformity with these allocations, operators in the Huffman section of the field will be allowed to produce a total of 22,000 bbls. per day. The Felix area has a daily allotment of 21,400 bbls. The Standard and Kettleman North Dome Association will be permitted to produce an additional 16,600 bbl. per day in other sections of the field. The total of these three allocations, 22,000 bbls. per day for the Huffman area, 21,400 bbls. per day for the Felix area and 16,600 bbls. per day for the discovery area, represent the total allotment of 60,000 bbls. per day for the Kettleman Hills Field.

The reduction in state production to 490,000 bbls. per day has greatly simplified curtailment work and the co-operation of producers has removed the necessity of maintaining a large staff of supervisors. As a result of this condition, the operators committee on statewide curtailment consolidated the offices of Umpires Anderson and Grimm and appointed Neal Anderson state umpire. Umpire Anderson will have two assistants and will retain representatives in as many fields as necessary. William (Bill) Gordon, who has been Umpire Anderson's assistant since the initiation of curtailment work, will continue in his present capacity and have direct supervision over all fields formerly under the supervision of Mr. Anderson.

It is quite likely that Assistant Umpire Gordon will also take over supervision of the West Coyote Field and possibly one or two other areas which can be doubled up. R. E. (Bob) Allen, who has been Umpire Grimm's assistant, will become assistant to Umpire Anderson. This consolidation, which becomes effective August 15, is expected to result in the saving of approximately $40,000 per year and will at the same time be a little more under a unified control. In accepting the resignation of Umpire Grimm, the operators general committee on statewide curtailment highly complimented him on his efficient work and untiring efforts. The committee also emphasized the point that the consolidation of the two offices was purely of an economic nature and not because of any dissatisfaction or inefficiency. As a matter of fact, both of the umpires have been eminently fair in the establishment of individual allotments and efficiency of operation.

Huntington Beach

The Huntington Beach Field of Los Angeles Basin occupied a prominent position in the spotlight during the past week when W. E. McCaslin made a production test of his No. 17 Transport. This well, located in the town lot section of the Huntington Beach Field, where the Superior Oil Co. is believed to have encountered a new deep productive horizon, failed to result in a natural flow after swabbing operations of two days' duration. Tubing was accordingly pulled and preparations started to bail down the fluid in the hope that the well would flow after the heavy drilling mud was removed from the hole and the hydrostatic pressure lowered. The test on this well has not yet been completed and the productivity of the sand has consequently not yet been determined. The status of this well may be described as promising with the production test incomplete.

It is the general opinion among field men that the outcome of work on No. 17 Transport is not necessarily a true index of what may subsequently be encountered in other wells more favorably located. McCaslin's well drilled through a fault zone somewhere around the 5,000-foot level, as core samples revealed the formation to be almost perpendicular. This well failed to pick up the Superior zone and drilling was accordingly resumed with the result that the well passed through the fault and subsequently encountered an oil zone considerably deeper than the one originally logged by the Superior Oil Co. If the displacement was downward, this may be the same zone, in which event the accumulation will be inferior to that of the higher block in which the Superior Oil Co. encountered oil sand last year.

The Superior Oil Co. has been taking things easy and is not in any hurry to develop production. It would be unfortunate if a town lot drilling campaign was precipitated in the Huntington Beach Field at the present time as this work would offset the substantial curtailment effected in other areas. The Superior has one well standing cemented in the pay and has three others either drilling ahead or standing cemented several hundred feet above the top of the new zone. The Superior zone in the Huntington Beach town lot area is approximately 7,000 feet below the surface and for this reason is not expected to exert any appreciable effect on state production during 1931. It would have a rather depressing effect on the general morale, however, and would naturally cause some anxiety.

Kettleman Hills

Several additional wells were shut in completely at Kettleman Hills during the past week in order to enable operators to reduce current production to the fixed allotment of 60,000 bbls. per day. The Petroleum Securities shut in No. 2 Felix last Monday and the Standard Oil Co. increased its suspended producing wells to four. The Kettleman North Dome Association, Associated, Union, Superior and Shell reduced production by effecting additional curtailment on producing wells. No. 1 Burbank of the Petroleum Securities is the most important well under way in the Kettleman Hills Field at the present time and this project will bear watching during the course of the next few weeks. The importance which attaches to this well lies in the fact that it will open up a new field if commercial production is secured. No. 1 Burbank is situated in the Middle dome and will not have any connection with the North dome except that both domes are located on the same general Kettleman anticline. Geologically, No. 1 Burbank is just as favorable as the North dome previous to completion of the discovery well. The Middle dome has perfect closure and, while smaller in areal extent, should nevertheless be found highly productive if the Temblor oil sands are productive. The Middle dome will not cause any anxiety as far as production is concerned as it will no doubt be brought under unified development.

The income of the Kettleman North Dome Association is expected to approximate $600,000 for the month of July and, after payment of royalties and deduction of operating expenses, will show a net of about $250,000. The association controls 10,800 acres in the North dome and has a current allotment of approximately 25,000 bbls. per day. The Continental Oil Co., following a rather unsatisfactory preliminary production test on No. 2 Result in the north Belridge Field of Kern County, has resumed drilling and will attempt to open up more formation. It is particularly significant to note that the use of heavy drilling mud has ap-

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	68,690
Fuel oil	.....	.....	.....	.....	.....	71,950
Diesel and gas oil	107,150	15,307	.....	.....	1,094,502	2,294,195
Gasoline	.....	.....	364,646	52,092	8,286,939	11,366,996
Kerosene	.....	.....	68,480	9,783	157,589	.....
Coastwise—						
Crude oil	433,182	61,883	617,421	88,203	12,480,175	8,652,554
Fuel oil	176,876	25,268	188,119	26,874	7,603,538	9,846,113
Diesel and gas oil	26,544	3,792	39,996	5,714	895,988	1,070,750
Gasoline	469,684	67,097	366,533	52,362	8,167,997	7,087,216
Kerosene	.....	.....	5,150	736	201,804	114,685
Naphtha distillate	.....	.....	.....	.....	4,952	.....
Exports—						
Crude oil	149,242	21,720	70,239	10,034	4,201,886	3,900,450
Fuel oil	174,712	24,959	221,517	31,645	8,249,150	10,635,914
Diesel and gas oil	98,983	14,140	5,835	834	2,254,277	2,723,426
Gasoline	222,504	31,786	147,184	21,026	5,385,002	9,384,357
Kerosene	66,510	9,501	168,000	24,000	1,044,210	2,172,279
Lubricants	.....	.....	.....	.....	36,353	10,082

TANKERS SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	227,648
Gasoline	.....	.....	.....	.....	405,469	783,367
Lubricants	.....	.....	.....	.....	21,990	16,776
Coastwise—						
Fuel oil	149,310	21,730	24,116	3,445	2,427,860	2,121,042
Diesel and gas oil	83,047	11,864	.....	.....	278,159	169,165
Gasoline	110,863	15,838	110,423	15,775	2,153,604	2,366,219
Kerosene	24,261	3,466	7,374	1,053	198,605	142,044
Naphtha distillate	.....	.....	.....	.....	49,780	.....
Exports—						
Crude oil	.....	.....	.....	.....	107,736	2,075
Fuel oil	.....	.....	77,402	11,057	798,303	662,135
Diesel and gas oil	.....	.....	.....	.....	294,708	239,054
Gasoline	205,971	29,424	91,907	13,130	2,624,793	2,433,049
Kerosene	.....	.....	.....	.....	535,972	408,203
Lubricants	.....	.....	.....	.....	.....	18,672
Naphtha distillate	.....	.....	.....	.....	20,100	.....

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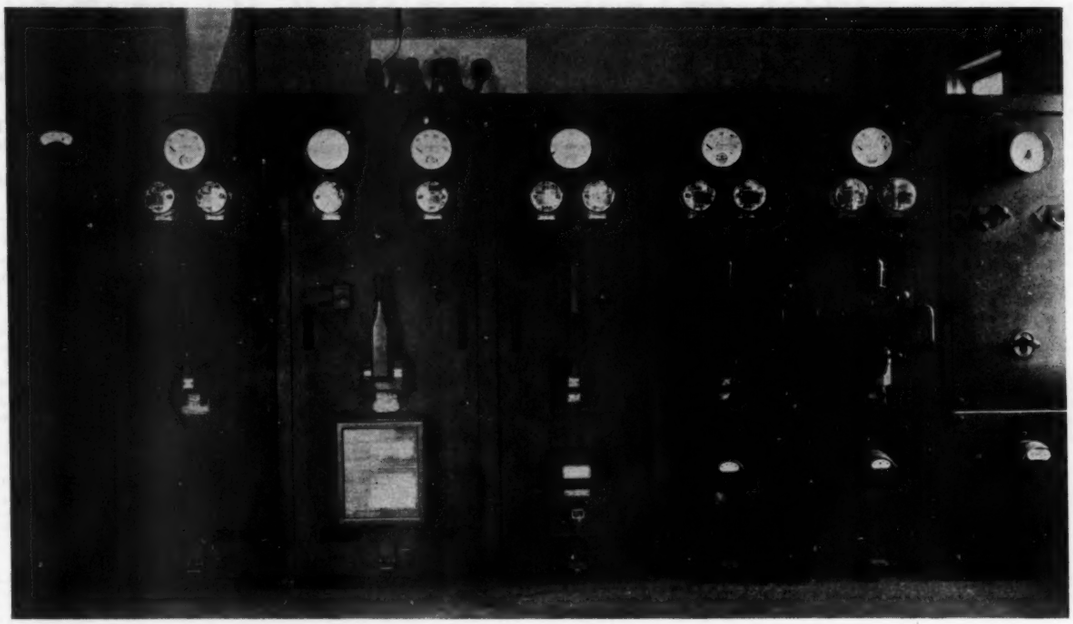

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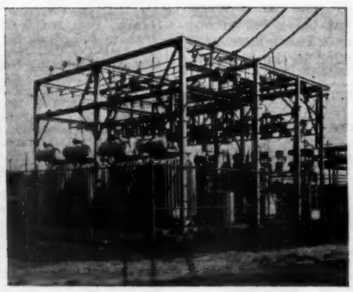

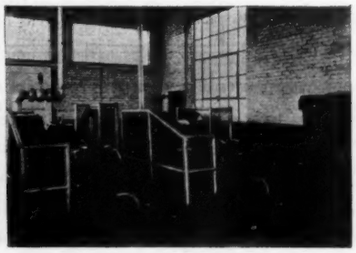

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parently prevented wells in the south end of the field from attaining maximum production. This condition prevailed both in the Union Oil Co.'s initial completion in this area and in No. 2 Result of the Continental.

Playa Del Rey

Two wells were put on production in the Playa Del Rey Field of Los Angeles Basin during the past week and both of them resulted in commercial production. The Union Oil Co. started off the week by finishing No. 3 Del Rey flowing 760 bbls. per day from the deep zone at 5,815 feet, the oil being clean and testing 22.4 degrees. The Union does not have any other incompleted drilling wells in the Playa Del Rey Field at the present time but will probably be obliged to undertake additional development within the next 30 or 60 days. Three of the company's producing wells have been standing shut in for the past month due to curtailment work. Hampton & Co. finished No. 1 Del Rey in the deep zone during the latter part of the week and this project came in under a natural flow doing 1,120 bbls. of clean 23.6 gravity oil per day. This well was bottomed in the schist at 6,387 feet and is presumed to be producing from fractured schist as a string of 5-inch casing was landed and cemented at 6,280 feet. This is not unusual, however, as there are several other wells in the Playa Del Rey Field producing from the schist. It is somewhat of a geological phenomenon and can be explained only by the possibility that the schist, which immediately underlies the oil zone, is fractured and thus trapped oil from the deep Recreation zone. In the Long Beach Field, George Duty completed No. 1 A. Roco, pumping 230 bbls. of 25.6 gravity oil per day from 4,031 feet.

Rincon

The General Petroleum successfully completed No. 3 Ferguson, a tideland drilling project in the Rincon Field of Ventura County, and this well is doing 255 bbls. of 25.1 gravity oil per day from 2,610 feet, the hole having been finished with a 5¾-inch oil string carrying 40 feet of perforated. The General Petroleum has one other well under way in this field at the present time and present plans call for the suspension of all work as soon as it is put on production. In the Santa Barbara Mesa Field, the Palisades Petroleum finished No. 3 Meigs pumping 298 bbls. of exceptionally clean 19.2 gravity oil per day. This new well was bottomed at 2,197 feet and finished with a 6⅝-inch liner carrying 150 feet of perforated.

The Superior Oil Co. is erecting a 174-foot rig to be used in the drilling of No. 6 Hartman in the Ventura Avenue Field. This rig, similar in size with the derrick used in the drilling of No. 3 Huffman at Kettleman Hills, will be completed within the next few days. The Superior, which is developing the Hartman lease in conjunction with the Bolsa Chica Oil Co., will carry this new well down in an effort to pick up the new deep zone recently discovered in the Associated's No. 57 Lloyd.

The Pacific Western Oil Co. will also make an effort to produce from the new 57 zone as this company's No. 7 Orton was recently started on down to the lower horizon. The Continental Oil Co. has reached a depth of 6,124 feet in No. 1 Grubb, a wildcat located approximately midway between the Ventura Avenue and Rincon Fields, and it is the present intention to carry this wildcat on down for a deep conclusive test. No. 1 Grubb appears to be checking somewhat deeper than the Chanslor-Canfield Midway Oil Co.'s No. 2-A Hobson, which was carried down to 10,030 feet before being plugged back following an unsuccessful production test. At Coal Oil Point, located about 3 miles east of the prolific Elwood Field of Santa Barbara County, the Superior has resumed drilling operations on the Bolsa Chica Oil Co.'s wildcat in that area and it is the present intention to make a deep conclusive test. The Superior has abandoned its No. 1 Kirtlan, a wildcat in the Sespe region of Ventura County, as a duster at 7,688 feet. A few occasional oil showings were cored in fractured brown shale but were not considered favorable enough to warrant a production test.

Goleta District

In the Goleta district of Santa Barbara County, the General Petroleum's No. 3 More is logging thin streaks of oil sand in the Sespe red shale at 5,995 feet and, while the showings to date do not warrant a test, this well may be given a chance to make a bid for production some time within the next few weeks. The Ohio Oil Co. is rigging up No. 1 Oakley in the Goleta Slough adjoining acreage of the General Petroleum and spud is expected to be made some time within the next few days.

The Standard Oil Co. is making preparations to land a string of casing in No. 1 Sickler, a wildcat in the Newport district of Los Angeles Basin. This well, located southeast of the Huntington Beach Field, is reported to have cored sufficient oil sand to justify a production test and work will consequently be watched with interest during the next few weeks. This well started in the Miocene and the oil logged is probably coming from the Puente. The Superior Oil Co. entered the Newport area a few weeks ago and acquired several hundred acres of potential oil land on a small structure south of that being tested out by the Standard Oil Co. There have been a number of wells drilled in the Newport district of Los Angeles Basin during the past 10 or 15 years but none of these wildcats ever succeeded in developing commercial production.

The failure to open up a new field in this area may perhaps be due to the fact that most of the wells in question were not carried deep enough. Some small shallow production of heavy oil has been developed in the Newport Field but this is more of an asphaltum deposit than crude oil. Several years ago attempts were made to mine this asphalt but considerable difficulty was experienced due to the inability to keep operating costs down. Pumping operations had previously been unsuccessful due to the viscosity of the oil and while live steam and steam coils were employed this failed to produce satisfactory results.

TO VOTE ON FRANCHISE

OKLAHOMA CITY, Okla., Aug. 3.—The city council at Oklahoma City has decided to submit to the voters, September 22, a proposal for granting a new franchise to the Oklahoma Natural Gas Corp. The council rescinded its former decision to submit in the same election a proposal to vote $4,000,000 in bonds to establish a municipal gas plant. The proposed franchise carries a top rate of 45 cents and a 2 per cent gross receipts payment on domestic gas sales.

ATLANTIC REFINING'S NEW TERMINAL IN USE

HOUSTON, Tex., Aug. 1.—The new oil loading terminal constructed by the Gail-Borden-Munsill interests for the Atlantic Refining Co. at Harbor Island, south of Corpus Christi, was put in operation the past week. The terminal, one of the most modern now on the Gulf Coast, is able to load 18,000 bbls. hourly. The dock is 480 feet long and includes all electrically driven hoists and pumps.

The Atlantic will handle crude chiefly out of the Refugio Field, from where the Atlantic Pipe Line Co. operates two lines, acquired early in the year from the Gulf Coast Pipe Line Co. The company also has provided 455,000 bbls. of steel storage, having enlarged materially the storage farm facilities within the last several months.

WANTS TO BUY GAS SYSTEM

SAN FRANCISCO, Calif., July 27.—The West Coast Gas & Fuel Co., subsidiary of Standard Oil, has asked permission of the State Railroad Commission to acquire the butane gas system of the Natural Gas Corp. of California and install straight natural gas service in Benicia, Cordelia, Dixon, Fairchild, Suisun, Winters and Vacaville.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.-T.-R.	Depth	Status
Hinos Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	6,610	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Mesmer City, Corp., No. 1 Mesmer, Los Angeles Co.	34- 2-16	6,440	gr. sd. drilling
Dwyer & Becker, No. 1 Compton, Los Angeles Co.	17- 3-13	4,520	suspended
Allison Synd., No. 1 Baldwin, Los Angeles Co.	8- 2-14	5,110	suspended
Cal. Oilfields Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	2,560	suspended
Carniel Oil Corp., No. 1 Hermosa, Los Angeles Co.	31- 3-14	3,114	suspended
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	4,665	suspended
Thorpe Pet. Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	3,840	suspended
Alondra Oil Co., No. 1 Hawthorne, Los Angeles Co.	33- 3-14	rig	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,700	suspended
Pacific Shore Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	rig	rigged up
York & Smullin, No. 1 Watson, Los Angeles Co.	29- 4-13	3,790	suspended
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17- 4-13	1,012	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	....	location
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
Arden Oil Co., No. 1 Puente, Los Angeles Co.	15- 2-10	3,325	suspended
D. & B. Oil Co., No. 1 Puente, Los Angeles Co.	2- 2-10	4,620	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2-9	1,720	br. sh. drilling
Marcel Pet., No. 1 Puente, Los Angeles Co.	31- 2-8	3,100	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,870	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	4,344	cleaning out
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,842	suspended
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	redrilling
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19- 1-12	1,920	sd. sh. drilling
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	2,280	suspended
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	753	redrilling
Caballero Estate, No. 1 Calabasas, Los Angeles Co.	23- 1-16	902	cleaning out
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,960	suspended
West Coast Waste Oil Co., No. 1 Van Nuys, Los Ang. Co.	14- 1-16	rig	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	780	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	5,561	hd. sd. drilling
Western Gulf, No. 1 Santa Ana, Orange Co.	12- 5-8	3,267	suspended
Gieck Oil Co., No. 1 Sunset Beach, Orange Co.	30- 5-11	6,000	suspended
Beck, F. A., No. 1 Corona, Riverside Co.	8- 4-6	1,110	suspended
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4-6	1,125	sd. sh. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1-2	2,392	suspended
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	380	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13-4	2,519	suspended
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16-3	5,120	recemented
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18-2	1,040	sd. sh. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 8-8	5,250	cleaning out

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.-T.-R.	Depth	Status
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-35	6,860	hd. sd. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	3,347	sd. sh. drilling
Smith, W. E., No. 1 Lompoc, Santa Barbara Co.	18- 7-34	100	suspended
Zaca Oil Co., No. 1 Los Olivas, Santa Barbara Co.	20- 7-31	rig	suspended
Ohio Oil Co., No. 1 Goleta, Santa Barbara Co.	16- 4-28	rig	rigging up
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	gas—shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	gas—shut in
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	6,000	Sespe format'n
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	2,055	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,931	suspended
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	2,051	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21- 4-28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	2,010	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	4,384	sd. sh. drilling
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 4-29	2,099	suspended
Cochran, J. E., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,134	cleaning out
Strickland & Tippet, No. 1-A Goleta, Santa Barbara Co.	19- 4-27	4,093	sd. sh. drilling
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
C. C. M. O. Co., No. 2-A Rincon, Ventura Co.	22- 3-24	10,030	plugging back
Continental, No. 1 Rincon, Ventura Co.	23- 3-24	6,124	sd. sh. drilling
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	....	location
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	2,591	suspended
Superior Oil Co., No. 1 Sespe, Ventura Co.	14- 4-21	7,688	abandoned
San Pedro Oil Co., No. 2 Sespe, Ventura Co.	13- 4-21	2,410	cleaning out
Magu Synd., No. 1 Oxnard, Ventura Co.	17- 1-21	4,910	suspended
Mex Cal Oil Co., No. 1 Conejo, Ventura Co.	12- 1-20	240	suspended
Hansen Pet., No. 1 Conejo, Ventura Co.	24- 1-20	100	suspended
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-27-22	....	location
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	recemented
Milham Expl. Co., No. 7 Buttonwillow, Kern Co.	6-28-23	2,738	will deepen
Kent & McDonald, No. 1 Temblor Hills, Kern Co.	3-32-22	1,394	sd. sh. drilling
Calif. Oil Producers, No. 1 McKittrick, Kern Co.	30-30-22	3,350	hd. sd. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,367	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	5,269	reaming
The Texas Company, No. 1 Belridge, Kern Co.	32-27-20	5,045	suspended
Standard, No. 2 Belridge, Kern Co.	31-27-20	5,635	plugging back
Ohio Oil Co., No. 1 Belridge, Kern Co.	36-27-20	5,950	suspended
Continental, No. 1 Belridge, Kern Co.	36-27-20	5,460	deepening
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	recemented
Rio Cal. Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-30-28	3,352	sd. sh. drilling
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,910	pump 175 B/D
Shell, No. 2 Weed Patch, Kern Co.	29-30-29	6,410	abandoned
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,465	plugged back
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-30-29	1,990	sd. sh. drilling
Mohawk Oil Co., No. 1 Weed Patch, Kern Co.	32-30-29	6,150	suspended
Mohawk Oil Co., No. 3 Weed Patch, Kern Co.	4-31-29	rig	suspended
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,600	to replug
Hannah, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,050	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	21-26-18	812	hd. sd. drilling
Tembior Dev. Co., No. 1 Blackwell Corner, Kern Co.	14-26-19	1,030	suspended
E. J. Miley, No. 1 Blackwell Corner, Kern Co.	17-26-19	rig	suspended
United Kern Pet., No. 1 Mojave, Kern Co.	26-10-14	1,045	suspended
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11-9	511	redrilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	820	sd. drilling
Meline, F., No. 1 Tejon, Kern Co.	33-11-19	....	location
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,100	sd. sh. drilling
Panorama Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-31-21	4,019	suspended
Trav El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-32-22	2,030	suspended testing
Paso Robles Synd., No. 1 Paso Robles, San Luis Obispo Co.	34-27-11	4,040	hd. sd. drilling
Latin Amer. Pet., No. 1 Shandon, San Luis Obispo Co.	21-27-15	4,615	recemented
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	24-28-12	1,250	suspended
Jergins, A. T., No. 1 Arroyo Grande, San Luis Obispo Co.	6-32-13	2,000	sd. sh. drilling
Brown, W. F., Well No. 1, Monterey Co.	13-23-14	1,340	suspended
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,345	gas well—idle
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well—idle
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	rig	suspended
Kettleman Lakeview, No. 1-A Dudley Ridge, Kings Co.	20-23-20	2,040	cleaning out
Furman, T. H., No. 1 Reef Ridge, Kings Co.	36-23-17	4,190	bl. sh. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	cleaning out
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	7,050	sd. sh. drilling
Orinda Pet., Well No. 1, Contra Costa Co.	32- 1-3	2,850	cleaning out
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,180	redrilling
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Ellis & Stanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,440	sd. sh. drilling
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15-4	930	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,180	hd. sd. drilling
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23-3	2,520	redrilling

J & L DOUBLE-LENGTH LINE PIPE

AFTER exhaustive research, the Jones & Laughlin Steel Corporation now offers to the Oil and Gas Industry, J & L double length pipe in sizes from 1" to 12", inclusive, joined by a process that provides a joint of forging characteristics.

The new J & L process is an adaptation of flash welding. First, the two ends to be welded are uniformly heated by electricity. When the proper temperature has been attained, the two lengths of pipe are joined by being pressed together.

The exuded metal, coated with oxide, gathers as beads on the inside and outside of the joint. On the inner surface, sufficient metal is removed to permit drifting. On the outer surface, the oxide coating is removed, leaving a small dense pad of metal. Inspection, and a thorough hydrostatic test conclude the process.

Oxidation and decarburization, as well as strains due to unequal expansion and contraction, are virtually eliminated. Any blow holes which might tend to form are pressed out during welding.

Flash welding equipment of special design and large capacity has been installed; large orders can thus be filled promptly.

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J&L STEEL

Better Feeling in Central West Field

Higher Prices for Crude Create More Cheerful Sentiment, Although Present Developments Are Confined Chiefly to Gas

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 3.—The old Central West Field is feeling better with advances in the posted prices of six grades of crude produced in the field, even though they will not bring about renewed activity in operations for oil, most of the present development being for gas.

In the old Lima Field of northwestern Ohio, three completions were reported the last week, the only oil producer was a 1-bbl. stripper drilled by R. W. Kirk and others in No. 3 on the E. H. James farm, Section 34, Biglick Township, Hancock County, and east of Findlay. J. H. Murphy & Son's second test on the Mary Getuldig farm, Section 11, Hopewell Township, Seneca County, is a light gas well, and the same parties are drilling a test on the Sarah Grimes, Section 2, same township. McKinney Brothers are drilling a test on the R. M. Martin, Section 25, Liberty Township, same county.

Lake Shore & Southwestern Metal Co. has a light gas well in a test on the Frederick Schafer, Section 23, Monroe Township, Henry County.

The Ohio Oil Co. abandoned Nos. 2 and 3 Albert Norris farm, Section 23, Henry Township, Wood County, also Nos. 8 and 9 D. Henning farm, Section 14, and Nos. 16, 22 and 23 J. Madden, Section 24. Same company in Bloom Township, same county, pulled out Nos. 18, 28 and 31 on the Northwestern Natural Gas Co. farm, Section 29.

In Spencer Township, Allen County, near Lima, the Ohio Oil Co. abandoned Nos. 3, 4 and 5 James Haunhorst, Section 13.

In Scott Township, Sandusky County, the Ohio Oil Co. abandoned No. 1 Herman McDaniel farm, Section 3; Nos. 2 and 3 C. Houtz, Section 4; Nos. 6, 22 and 23 Michael Putnam, Section 29; Nos. 2, 4 and 24 Melissa Putnam, Section 20; Nos. 5, 7, 8, 12, 13, 17 and 18 Melissa Putnam, Section 21; No. 3 M. J. Bowe, Section 20, and Nos. 1, 2, 3 and 4 Norman Brion, Section 28.

The Preston Oil Co. abandoned Nos. 1 and 2 Fred Beck, Section 9, Salem Township, Ottawa County.

In Wyandot County, Tymochtee Township, Jones & Coyle is drilling No. 1 Josephine Long, Section 17. McPharon and others are starting a test on the Mrs. A. M. Walton, same section. Tymochtee Gas & Oil Co. is drilling No. 1 Fleshsenhar, and Murphy and others are drilling No. 1 George E. Lust, same township.

Adrain Tester is starting a test on the Charles Miller, Section 3, Mississinawa Township, Darke County.

CENTRAL OHIO

Thirteen completions were reported from the Central Ohio Field proper for the week, of which one was a producer with an initial of 20 bbls., five were dry holes and seven gas wells. There were six locations staked for new wells and 10 started spudding, a slight improvement over the last few weeks. Most operators in the Central Ohio Field are hunting for natural gas, instead of oil, for the field has a ready market for the gas.

In Ashland County, the Ohio Fuel Gas Co. has a light gas well in No. 1-5,506 Sarah H. Buchanan farm, Section 2, Perry Township, at a depth of 2,867 feet. Same company found a dry hole, there being no sand found in No. 1-5,517 J. J. Millheim farm, Section 32, Orange Township, same county.

In Lorain County, no new completions were reported. Dillon & McFredericks started drilling a test on the William R. Squires farm, Lot 88, Columbia Township.

In Medina County, Chatham Township, Edson and others' No. 23 Marcus A. Frank farm, Lot 20, reported with an initial of 20 bbls. from 384-423 feet. Ohio Fuel Gas Co. drilled a dry hole in No. 2-5,502 J. A. Hines farm, Section 6, Homer Township. Same company drilled a very light gas well in No. 1-3,805 V. A. Homan farm, Lot 94, Garrisville Township, while Ramage & Willis struck a dry hole in a test on the Pfeiffer & Warner farm, Lot 42, Litchfield Township, at a total depth of 2,809 feet.

In Wayne County, Barnhart and others' test on the George Elser, Section 4, Chester Township, was a dry hole in the Clinton lime from 3,184-96 feet. Bryan and others are drilling No. 4 Clarence A. Alexander farm, Section 23, Plain Township.

In Richland County, Worthington Township, Ohid Fuel Gas Co. has a gas well in No. 1-5,507 E. B. McFadden farm, Section 25, and Harmon & George are drilling a test on the William Hines, Section 21, Miflin Township.

In Summitt County, Green Township, White & Bacon have a light gas well in a second test on the W. C. Rech, Section 7, from 3,995-4,035 feet.

In Licking County, the Wehrle Gas Co. struck a light gas well in a test on the F. H. Stoll, Section 15, McKean Township, from 2,412-35 feet.

Muskingum County

In Muskingum County, Washington Township, the Atha Co. found a dry hole in a test on the Fred Pollock, Section 12, at 3,983 feet. Same company is drilling a test on the Richard Huff, Section 3, Wayne Township, and the Hopewell Gas Co. made a location for a second test on the Phillip Morningstar farm, Section 8, Brush Creek Township.

In Tuscarawas County, Lawrence Township, the East Sparta Caramie Co. set a stake for No. 3 William M. Evans farm, Lot 10.

In Stark County, Jackson Township, the most active area at this time in the field, the East Ohio Gas Co. struck a fair gas well in No. 3 T. K. Harris farm, Section 24, in the Clinton lime at 4,373-81 feet. Brendall and others are drilling No. 1 Jacob Cockley, Section 10, same township. East Ohio Gas Co. is drilling No. 1 H. Starky, Section 29, Paris Township.

In Fairfield County, Richland Township, Patton & Bishop are drilling No. 3 Charles H. Shaw farm, Section 32.

In Belmont County, Somerset Township, A. C. Peters and others made a location for No. 2 Charles McLaughlin, Sections 36 and 22. McMillan and others are drilling No. 1 William F. Sampson, Section 20. Washmuth & Callahan have a light showing of oil in the Berea sand at a total depth of 1,858 feet in a test on the G. and H. C. Butler farm, same township.

In Morrow County, Chester Township, H. E. Perkins topped the Trenton limestone at 3,220 feet and hit a dose of water at 40 feet in that formation.

Meigs County has some development work recently, but nothing large in the way of either oil or gas, just ordinary wells. The Ohio Fuel Gas Co. has a fair showing of gas in No. 1-5,492 A. J. Wingatt farm, Section 27, Bedford Township, in the Berea sand, but has been having casing trouble and not as yet completed. Joe Rubin and others have a fair gas well in a test on the T. Huckerman farm, Section 34, Salisbury Township, same county, in the Maxon sand from 810-24 feet. E. E. Martin and others are shut down at their test on the J. G. Miller, Section 3, Chester Township, same county, at a depth of 1,450 feet. A. Bingle and others' No. 4 David A. Thomas farm, found the Maxon sand from 1,014-45 feet and dry, but may be drilled to a greater depth. This well is in Rutland Township, Section 7, and the Nelsonville Oil & Gas Co. is starting drilling a test on the Bartlett Romine farm, Section 24, same township.

In Tuscarawas County, Washington Township, Hopewell Gas Co. has a light gas well in a test on the A. E. and H. B. Quigley, Lots 23, 27 and 29, in the lime formation at 3,380 feet.

INDIANA

No completions were reported from any area of Indiana for the week, the only one nearing completion being a wildcat drilling by Williams and others near the town of Montgomery, in Daviess County, which had a gas showing at 699 feet and light oil at 700 feet.

In the old Indiana Trenton lime field, in Blue Creek Township, Adams County, the Paul Schulte Oil & Gas Co. abandoned Nos. 1, 2, 3, 4, 5, 6 and 7 Paul Schulte farm, Section, 16. Ohio Oil Co. pulled out Nos. 1, 2 and 4 D. Dudgeon, Section 27, same township, also No. 1 John H. Sipe, same section.

C. E. Wommer abandoned No. 1 James M. Thomas farm, Section 19, Washington Township, Pike County, also did the same with No. 1 Marion Sisters farm, same section. A. B. Bement is drilling No. 6 Claud Loveless, in Location 14, Clay Township, same county.

Charles W. Scott is drilling No. 4 C. L. Davis No. 2 farm, SW Section 14, Truman Township, Sullivan County. Wyman & Brown is drilling a test on the G. W. Benson farm, Section 5, Hamilton Township, same county.

ILLINOIS

Illinois failed to report any completions, although a few new wells are starting in outside territory that may be interesting. The Phillips Petroleum Co. is reported to be down to a depth of 1,300 feet at a test on the W. R. Moss farm, Section 24, Elk Prairie Township, Jefferson County, which is a purely wildcat venture, being in the south central part of the State far away from any known production. The hunt is said to be for gas. The county seat is Mount Vernon.

Duncan Machine & Foundry Co. is reported at a depth of 1,840 feet at a test on the H. Woolridge farm, Section 23, Dorchester Township, Macoupin County, and in the southern portion of the county and northeast of Alton.

Walter Cline is drilling a test on the A. G. Hildreth farm, Section 27, Lafayette Township, Coles County, and northwest of the shallow Casey Field, and in Edgar County, Embarrass Township, north of the old Westfield Field, and northeast of the Casey Field, W. D. McColpin is drilling a test on the J. B. Weiland farm, Section 3.

In Oblong Township, Crawford County, the American Oil Co. abandoned Nos. 3, 26 and 29 A. R. Short farm, Section 32. Niagara Oil Corp. abandoned No. 19 J. and G. Apple farm, Section 8, also No. 1 James Murphy farm, same section. Dinsmoor Oil Co. pulled out No. 2 J. L. Wilson heirs farm, Section 9, same township. W. C. McBride, Inc. is drilling a test on the A. E. Duncan farm, Section 4, Montgomery Township, same county.

KENTUCKY

The New Domain Oil & Gas Co., whose headquarters are in Lexington, is reported to have purchased approximately 250 oil wells in Estill and Powell Coun-

(Continued on Page 106)

EAST DRAWING ON CRUDE OIL STOCKS AS RESULT OF CURTAILMENT PROGRAM

By Staff Correspondent

PTTSBURGH, Pa., Aug. 3.—Careful planning of the conservation board of the Pennsylvania Grade Producers Association and the rather general adherence to the curtailment program have brought the eastern fields to the point where the industry is drawing on stocks.

Drilling in the lower eastern fields continues quiet with 10 completions and 5 dry holes reported in the last week. All were drilled in southeast Ohio and West Virginia with none in southwest Pennsylvania. There were 2 oil wells with an initial production of only 20 bbls., and 8 gas wells.

In southeast Ohio, the largest oil producer was in the shallow sands of Medina County, where E. R. Edson & Son Co. drilled their No. 21 on the productive M. A. and Eva Franks lease in Section 16, Lot 20, Chatham Township. It produced 15 bbls. the first day after being shot at a depth of 439 feet. In the same county the same operators are testing the limits of the shallow sands and drilled a second test on the Mary L. D. Yost farm in the northwest quarter of Lot 12, Fitchfield Township. The well was dry without showing of sand at a depth of 320 feet. The first test on the same farm was a small producer.

The Atha Oil Co. drilled a test on the Fred Pollock farm in the southwest quarter of Section 12, Washington Township, Muskingum County. This test found both the Clinton and Medina sands dry, and the well was abandoned at a depth of 3,970 feet. In Monroe County, the Monroe Bank of Woodsfield, Account No. 115, drilled a second test on the Mason N. Hogue farm in Section 11 of Franklin Township. It was drilled in the Injun sand at a depth of 1,232 feet and is a gas well rated good for 100,000 feet a day with about 2 bbls. of oil. The well was shot in the Injun sand.

Washington County reported two wells. In Section 32, of Independence Township, J. T. Hall and others drilled a test on the John Burgy farm about 700 feet southeast of their test on the Elizabeth A. Farshey farm. There was no showing of oil, but there was but a flow of 160,000 feet of gas a day after being shot in the Salt sand at 1,340 feet. In Aurelius Township, in the southwest quarter of Section 18, J. C. Ogle drilled a test on his own property in the Macksburg 500-foot sand, at a depth of 549 feet. There was a small showing of oil on the 300-foot or Dunkard sand at a depth of 410 feet but not in paying quantities and the well is regarded as a dry hole.

OHIO

Drilling operations are quiet in southeast Ohio, mostly on account of the poor market both for oil and gas. In Tuscarawas County, the Ohio Falls Drilling & Supply Co. is drilling a test on the Harvey Long farm, Lot 22, Clay Township. In Washington Township, the Gordon Oil and others have started drilling No. 4 on the Ralph Huffman farm.

(Continued on Page 81)

LIKE THE SNOWS OF YESTERYEAR THEY'VE DISAPPEARED

Those will-o-the-wisp individuals who in boom times are so ready to offer their services at cut-rate prices —where are they now? Like the horses who fall back when the race is tight, they are forgotten by all save those who risked money upon them.

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Erle P. Halliburton

President

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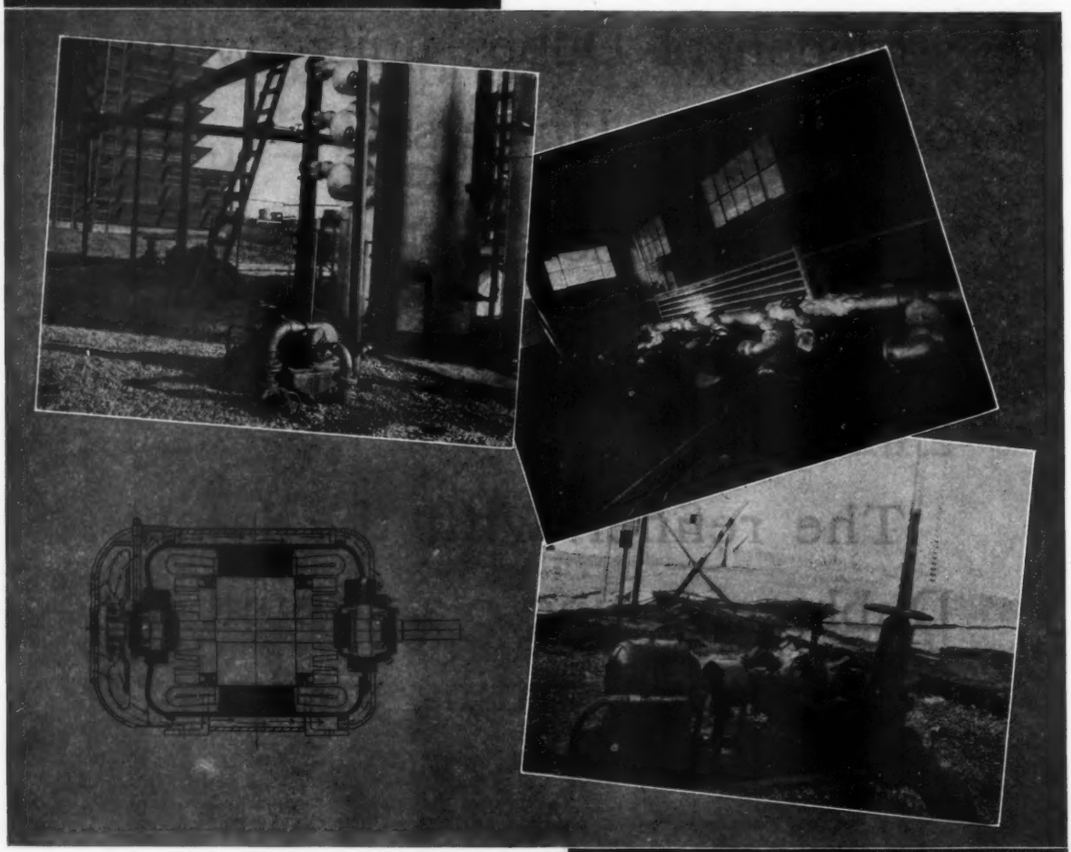
In petroleum industries, especially, is uninterrupted motor operation of paramount importance. » » » That is why Wagner type CP air-jacketed motors are preferred by the leading petroleum engineers, particularly for pumps which must be kept going whatever the atmospheric conditions may be. » » » For Wagner CP air-jacketed motors are so built that nothing obstructive or injurious can find its way into the motor in sufficient quantity to require frequent removal. As the cross-section drawing illustrates (in this case showing one of the smaller sizes), these CP motors are provided with two frames, an outer frame



which guides a strong cooling draft over the motor, and an inner frame with clearances around the shaft only, clearances thru which nothing obstructive or injurious can get into the motor because of seals and grease packing.

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Personal Paragraphs About Oil Men

Pat Lewis, general manager of the Resisteor Corporation, Tulsa, left for a trip to several points in Texas.

* * *

Frank Racher has returned to Petrolia, Ontario, after completing a drilling contract in Trinidad, British West Indies.

* * *

Robert McCoy, sales manager for the Frick-Reid Supply Corporation, Tulsa, left for an extended trip through the Texas oil fields.

* * *

George S. Buchanan, geologist for the Tulsa Oil Company, is back in his home in Tulsa after an absence of six weeks in the East Texas Field.

* * *

Wirt Franklin, president of the Wirt Franklin Petroleum Corporation, is spending a few weeks' vacation in the mountains at Masonic Park, Colorado.

* * *

R. C. Jones, president of the Blackwell Oil & Gas Company, Blackwell, Okla., has gone with his family to Colorado Springs, Colo., where they will remain until September 1.

* * *

Denbigh Ellis, assistant export manager of the Associated Oil Company, was in Los Angeles recently, returning a few days later to the company's home office in San Francisco.

* * *

Harry Smith has returned to Petrolia, Ontario, from Colombia, where he has been on contract with the International Petroleum Company. Mr. Smith brought home with him a 7-weeks-old tiger cub.

* * *

M. W. Bissett, formerly connected with the purchasing department of the Pure Oil Company, in Tulsa, is now purchasing agent for the East Texas Refining Company and Burford Oil Company, in Dallas, Tex.

* * *

W. L. McLaine, vice president and manager of the production department of the General Petroleum Corporation, has returned to the company's Los Angeles, Calif., office from his annual vacation spent in the high Sierras.

* * *

John Baldridge, state conservation officer in the Nowata district of Oklahoma, has been busy plugging wells in the stripper area. He has inspected the plugging of 26 wells since July 1, and expects to add to the number before the last day of the month.

* * *

Dr. Robert E. Wilson, assistant to the vice president in charge of manufacture, and a member of the board of directors, Standard Oil Company, Chicago, received the honorary degree of doctor of science from his alma mater, the College of Wooster (Ohio) on June 15.

* * *

Arthur C. Stewart, son of the late W. L. Stewart and grandson of the founder of the Union Oil Company of California, has been appointed manager of specialty sales, in which he will co-operate with the lubricating oil and advertising departments reporting directly to V. H. Kelly, director of sales.

* * *

Paul A. Greutter, geologist and paleontologist, San Angelo, Tex., has taken a position in the structural drilling department of El Aguila, Tampico, Mexico, and will take up his new work at once. He was formerly employed by the Shell Petroleum Corporation and Superior Oil Company in San Angelo.

* * *

F. L. Braybrook, production superintendent for International Petroleum Company in Peru, with Mrs. Braybrook and son Loraine, left Talara on July 2 via New York for Petrolia, Ontario. Prior to his departure, Mr. Braybrook was presented with an engraved watch and chain by fellow workers of the Negritos Sunday School, in which he has been active for the last nine years.

Roy Bettis, of the Bettis Sales Company, Houston, Tex., was a visitor in Tulsa last week.

* * *

F. O. Prior, of Tulsa, president of the Stanolind Oil & Gas Company, was a recent visitor to the East Texas oil field where his company has producing properties.

* * *

F. E. Minshall, a member of the Continental Oil Company's geological staff, has returned to his office in Los Angeles, Calif., following a vacation.

Men of the Industry

R. A. Broomfield, Jr.

R. A. Broomfield, Jr., recently appointed manager of the land department of the Barnsdall Oil Company of California, was born in Pittsburgh, Pa., on January 25, 1904. When he was 5 years old the family moved to California. He received his elementary education for the most part in California schools, and finished at Culver Military Academy. Later he was graduated from the University of Southern California with a degree of Bachelor of Science in geology and with a minor Business Administration.

Mr. Broomfield's first active experience in the oil fields was in 1924 as a cable tool dresser in the old Kern River fields and then with a well-pulling crew. Later in the same year he was assigned as an assistant in petroleum engineering in the Rosecrans area. In 1926 he was assigned to geological and engineering work on the company's No. 1 Merlo wildcat near Puente. In 1928 he branched into executive work as assistant alumni secretary of the University of Southern California. He returned to the fields in 1929 and spent a year in geological work together with about half a year as a roughneck on the Barnsdall company's Tognazzini wildcat well, near Los Alamos, Santa Barbara County.

When the company entered the Washington State area last year, Mr. Broomfield was transferred to Bellingham to be in charge of land operations for that area. Since that time he has been assistant manager of the land department of Barnsdall of California in charge of Kern County operations. Following the resignation of the former department manager he was named manager.

"Bud," as he is familiarly called, takes an active part in the affairs of the American Association of Petroleum Geologists, Sigma Gamma Epsilon professional geological fraternity and the Los Angeles Junior Chamber of Commerce.

Thomas Gilcrease, president of the Gilcrease Oil Company of Tulsa, is in Europe and is expected to return by October 1.

* * *

M. H. Kotzebue, general manager of the Tulsa Boiler & Machinery Company, has returned from an extended trip through Texas.

* * *

J. M. McReynolds, sales manager for the Tulsa Boiler & Machinery Company, is spending his vacation with his parents in Mineola, Tex.

* * *

B. V. Hole, oil operator and refiner, returned to his home in Newcastle, Wyo., recently from Deerfield, Ill., where he was called by the death of his mother.

* * *

Glen M. Ruby, of Los Angeles, Calif., president of the Nordon Corporation, is visiting Alberta, Canada, in connection with the company's interests in that province.

* * *

Gregg Sawyer, of Independence, Kans., assistant to John Ferdig, vice president and general manager of the Producers & Refiners Corporation, was in Casper, Wyo., recently.

* * *

Elmer C. Rogers, a member of the Union Oil Company's auditing department, and Miss Charline B. Owen were married in the Little Church of The Flowers in Glendale, Calif., July 25.

* * *

J. Albert Brown, of Independence, Kans., geologist for the Producers & Refiners Corporation, has been spending some time in the Lost Soldier district of Wyoming, making a survey of the Bunker Hill Dome.

* * *

C. B. Clement, of The Texas Company, is chairman of the Wichita Falls Chapter of the American Petroleum Institute's division of production, in that area succeeding Frank M. Stauffer, of Panhandle Refining Company.

* * *

B. M. Tanner, assistant chief chemist for the Pan American Petroleum Corporation, Aruba, Dutch West Indies, has been spending his vacation visiting friends in the Mid-Continent district. He will return to Aruba August 10.

* * *

J. M. McGregor, sales engineer for the Taubman Supply Corporation, Tulsa, has returned from a visit to the factory of the Chapman Valve Company, Indian Orchard, Mass., and the Stockham factory in Birmingham, Ala.

* * *

A. Jacobsen, of New York, president; A. M. Blow of Tulsa, vice president and general manager; and H. G. Officer, land man in Tulsa, all of the Amerada Petroleum Corporation, were business visitors in Fort Worth, Tex., recently.

* * *

R. R. Irwin, of Kansas City, Mo., president and general manager of the White Eagle Corporation, and E. C. Marshall, manager of refineries and pipe lines for the company, were in Wyoming recently conferring with the heads of departments of the company's Casper refinery in that State.

* * *

Dr. W. T. Thom, Jr., professor of geology at Princeton University, gave a lecture before the students of Eastern Montana Normal School in Billings recently, explaining "The Story of Petroleum" as unfolded in motion picture form. The film is the production of the United States Bureau of Mines educational department.

* * *

Miss Mary Iola Thompson, daughter of Mr. and Mrs. W. J. Thompson, of Okotoks, Alberta, Canada, and Joseph C. Barrett, of Turner Valley, Canada, were married recently in Okotoks. Following the ceremony Mr. and Mrs. Barrett left on a honeymoon trip to western points. On their return they will reside in Turner Valley where Mr. Barrett is on the staff of Calmont Oils, Ltd.

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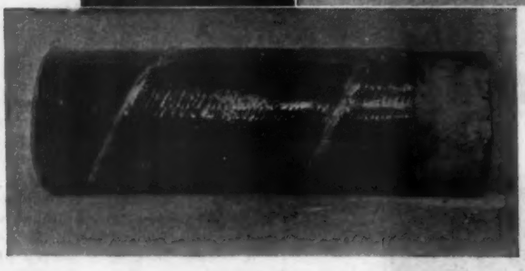
•After many years service underground this Pabco Protected pipe is in such good condition that it is ready to be installed in a new location.



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Then we were called in to prescribe. PABCO Pipe Covering was applied by PABCO methods. Since then, back in 1913, not a replacement of any sort due to corrosion has had to be made!

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For over twenty-five years we have maintained that water-proofing by the PABCO method gives the pipe full adequate protection from corrosion and all underground conditions.

We were leaders in the development of this method and the subsequent improvements of machine application. No other concern can give you the PABCO method. No other method can give you PABCO results.

The PABCO Method of Pipe Protection is now available through pipe mills located at convenient points throughout the East and Middle West. Have our engineering representative call to discuss your specific pipe problems.

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THE PARAFFINE COMPANIES, INC. 123

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PABCO Method of PIPE PROTECTION

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

HYDROGENATION AS A SOURCE OF COMPETITIVE FUEL

We are interested in learning more of the hydrogenation process as applied to the production of fuels and lubricants suitable for use in the present gasoline and kerosene type of tractor engines. We have been informed that the hydrogenation process will render the production of gasoline so cheap that the lower grade fuel oils for power purposes will possess no advantage in price. We realize that the present condition of the petroleum industry is not permanent, but by considering the fundamentals involved it should be possible to predict with some degree of certainty what the motor fuel of the future will be.—W. H. W.

The building of new substances by the introduction of hydrogen into certain compounds has been of interest to the chemist for some years and many synthetic products are now of commercial importance. Those synthetic substances that have met with greatest success as to money value on a large commercial scale have been produced by artificial means at a low cost to replace a natural product obtained at a higher cost; a notable example being synthetic indigo. Sabatier and Senderens studied the interaction of carbon and hydrogen about 1902, their research resulting in the perfection of processes for the manufacture of foods from many different oils and fats. The basis for such reactions is that the raw material lacks hydrogen and the introduction of this element is accelerated in the presence of a catalyst.

Fisher and Bergius have led the way in applying the principles established by the earlier investigators, when working with vegetable and animal oils, to the hydrogenation of coal and other carbonaceous materials in Germany, the stimulus for such investigations being the lack of petroleum in Germany in 1913, when Bergius started his experiments. In a similar way it was the demand for gasoline and the apparent decreasing supply of petroleum that encouraged the application of cracking processes following principles that had been known for many years, but had not been used because there was little demand for gasoline, the product. Had gasoline been available at the present prices during the rapid development of the automobile, there would have been no need for a cracking process to make more gasoline.

While the cracking methods require expensive apparatus to withstand the high pressures and temperatures, they are much cheaper to install and operate than it seems will be possible for hydrogenation. The hydrogenation process is reported to require the use of high pressure vessels, capable of withstanding a pressure of 2,200 pounds to the square inch in which the hydrogen is contacted with the petroleum residue and heated to about 900° F. under a pressure of 150 to 200 atmospheres, and requires the use of a catalyst. This is more expensive than the ordinary cracking process.

Recent prospecting has revealed extremely encouraging indications of extensive petroleum deposits in Germany and should actual development work confirm these stimulating signs, there will be little need for the hydrogenation process, as now developed, in Germany.

There can be no questioning of the facts concerning the hydrogenation of petroleum residues for the manufacture of gasoline and lubricating oils of high quality. A large number of the refiners of the United States have indicated a willingness to use the process, but they will certainly not make the large investment required while gasoline is sold for so little as at present. The relatively high cost of the raw materials and the high manufacturing expense have prevented commercial success in the production of alcohol and other substances for motor fuels. The same condition now applies to hydrogenation but should petroleum become scarce and the selling price of all petroleum products advance to some point far beyond the current market price, the application of hydrogenation for making gasoline and lubricating oils would be feasible.

Our experts tell us that there is an abundant supply of crude oil now located to last for many years to come so it appears that the motor fuel of the future will be either gasoline or some petroleum product. Much progress has been made in the development of an engine for motor use of the Diesel type; however, there is no demand for such an engine when good gasoline may be obtained for a few cents a gallon.

ACIDITY OF GASOLINE AND HYPOCHLORITE TREATING

We have received from Dr. A. E. Dunstan, London, England, the comments following relating to the possible presence of acid in hypochlorite treated natural gasoline.—Editor.

In Doctor Francis' reply to L. S. S., The Oil and Gas Journal, February 12, 1931, page 86, it is not sufficiently emphasized that the alkali content of the treating solution or of the final alkaline wash is all important in controlling the formation and removal respectively of the objectionable "acid" compounds. The secret of success in hypochlorite treatment depends upon the attention paid to these two essential factors.

While it is quite true that sufficient free alkali must be present in a hypochlorite treating solution to neutralize acid products formed during the oxidation of mercaptans and disulphides, i.e., the corresponding sulphonic acids, thus preventing the solution from becoming acid, the alkali plays another important part in reducing the activity of the hypochlorite. Alkaline hypochlorite solutions are more economical in use and have less tendency to "chlorinate" the gasoline treated. Actually the term "chlorinate" is not strickly used in the correct sense when referring to the formation of chlorine-containing bodies during hypo treatment. In straightrun distillates these bodies have been found to consist of acid-chlorides, derived from the mercaptans and disulphides present. They are insoluble in water, completely soluble in gasoline and impart to the latter the sharp odor characteristic of a "chlorinated" product. Analysis shows that these acid chlorides generally contain more chlorine than that required for sulphonyl chlorides $R.SO_2Cl$, and that higher chlorides e.g., $R.SOCl_2$, derived from the hypothetical compound $R.SCl_3$, by hydrolysis, are probably also present. While these compounds are readily destroyed by very weak alkali providing there is sufficient contact, under ordinary circumstances, as in gasoline solution, the contact is very poor and it is necessary to use strongly alkaline solutions which tend to emulsify with the gasoline and give the necessary intimacy of contact. The ease, however, with which these compounds can be destroyed is shown by the method employed to determine if the final alkali wash is being satisfactorily carried out. One hundred cubic centimeters of the hypo treated, water-washed gasoline are placed in a stoppered bottle, 10 cc. N/10 caustic soda added, followed by 20 cc. alcohol and the whole shaken for five minutes. At the end of this time a drop of phenolphthalein is added and the excess of alkali titrated. The "acidity" is given by the N/10 soda used up during the agitation. (A blank should be made on the alcohol used.)

The use of an alkaline hypo treating solution considerably reduces the acidity produced whereas solutions of low alkali content, particularly if during the course of the treatment they become acid, produce highly acid products. As the latter tend to decompose on standing particularly in light or in contact with warm iron, e.g., in a storage tank in the sun, it is essential for successful treatment to keep the acidity as low as possible. Even by the use of alkaline hypo treating solution it is impossible to prevent entirely the formation of acidity and this must be removed as far as possible by the final alkali wash. The best method for carrying out this operation is determined by the equipment available. With highly efficient continuous treatment weak alkali, e.g., lime water, can be used but generally it is more convenient to employ a discontinuous process and strong caustic soda solution, for example 10-20 per cent. The gasoline should then be agitated with a comparatively large volume of this wash, e.g., 20 per cent or more, until on test the acidity of 100 cc. gasoline is less than 0.2 cc. N/10 caustic soda. The strong soda solution is used until the alkali content drops to 5-10 per cent when it is used either for the initial alkali wash or, after thorough settling, for preparing the hypochlorite wash.

VISCOSITY OF KEROSENE AND OTHER REFINED OILS

Could you tell me at what temperature the viscosity of kerosene and similar distillates should be determined and what viscosimeter is the standard for this purpose?—W. F.

The determination of the viscosity of kerosene and other refined oils should be made at any temperature between 60° and 90° F., with a final statement of the result corrected ot 60° F., by means of a correction table furnished with the instrument. The instrument used in the United States for this determination is the Saybolt thermo-viscometer, described by Bennett in Petroleum Age, December 15, 1921, page 26; also Fortsch and Wilson, in Ind. Eng. Chem., Vol. 17, 281, 1925. The method and the instrument have not been standardized by any national society.

The viscosity of refined oils, R. O. Vis., is expressed as a whole number, such as 405. The viscosity of kerosene, naphtha, and gasoline, or any petroleum distillate flowing more rapidly than 32 seconds Saybolt Universal at 100° F., may be determined by means of the thermo-viscometer. The thermo viscosity is a number 10 times the number of seconds required for the sample to rise a fixed distance in a glass capillary. The time required may be 34.2 seconds at 76° F., which corrected to 60° F. becomes 405 thermo viscosity.

Since the lamp test has been standardized the thermo viscosity is seldom used for testing the quality of kerosene. As a rule the heavier, lower gravity, an oil the higher the thermo viscosity. To some extent the value may be used to indicate the wick-fed rate and possibly burning quality of a burning oil, because the low thermo viscosity oils usually show better results by the burning or lamp test than those with high viscosities. However, this property should be looked upon as simply an indication, and in this respect useful because of the time element, and a final opinion as to illuminating value should be based on the burning test. A good kerosene will usually show a R. O. Vis. between 375 and 425 when made from Mid-Continent petroleum, but faulty refining and the presence of impurities cause a poor lamp test notwithstanding a good viscosity.

OIL FOR PRINTERS' INK

What kind of oils are used for making printing ink? Is oil from petroleum used for this purpose?—E. C. E.

Printers' ink is essentially a kind of paint which dries rapidly. It is permanent, free from corrosive substances and anything resembling free grease. The printing inks of today have evolved from the formula of Canneparius, published in 1660, which required 1 pound of varnish made from linseed oil and juniper gum, incorporated with 1 ounce of smoke black and brought to the proper consistency over a slow fire. Savage in 1823 suggested heating 6 quarts of linseed oil until a cooled portion could be drawn into strings about one-half inch long. After slightly cooling, 6 pounds of rosin were stirred in, and next 1¾ pounds of brown soap in thin slices; this mixture then brought to the boiling point. This warm varnish was poured into an earthenware vessel containing 4 pounds mineral lamp black and 3½ pounds of vegetable black. This was stirred until free from lumps, and finally ground in a mill.

The modern ink is a similar product, the main difference being in the manufacture of the varnish and the selection of the carbon black made from natural gas. Beeswax, soap, shellac, tallow, soda ash, turpentine, rosin, special gums, olive oil, and spermaceti, are all used.

The cheaper grades of printing ink, such as used by newspapers, are made from 10 per cent carbon black and 90 per cent mineral oil. Petroleum ink oil is usually made from a liquid residue, similar to cylinder stock, blended with a small quantity of nonviscous neutral oil. An example, made from a semiasphalt petroleum, is specified as follows: Gravity, 26.1 A.P.I.; flash, 385° F. open cup; viscosity Saybolt Universal, 55 seconds at 210° F.; sulphur less than 0.5 per cent; pourpoint, 20°F. The important specification of this kind of oil is that it shall leave no spot on the under side of a piece of paper, or crawl with a tendency to produce a brownish tinge along the edges of the letters or a design. The density of the base oil is usually between 17 and 20 A.P.I. Rapid absorption by the paper is required, for the desirable news ink dries almost entirely by absorption, and to a very small extent by evaporation.

Natural Gas Industry Developments

COMPANY WILL OPERATE MANY GAS PROPERTIES

DALLAS, Tex., Aug. 3.—The Communities Gas Service Corp., an investment and gas company management and holding organization, has opened its headquarters in Dallas with C. W. Hobson of this city as chairman of the board of directors and C. O. Moore of Fort Worth as president. The new company begins with several gas properties in Texas and other states and it will acquire additional properties from time to time.

The company has acquired Mr. Moore's interest in the Northwest Texas Gas Co. It has also taken over from Mr. Moore the entire ownership of the Kansas Communities Gas Co. which will consolidate the holdings and properties of the Parsons Pipe Line Co., and Mariclaire Utilities Corp., the St. Paul Gas Co., and the McCune Gas Co., all of which are in southeast Kansas. The company has also acquired Mr. Moore's franchise to supply gas to Menard, Tex., and the right to purchase his holdings in a natural gas field near Menard. The Menard project will be completed as soon as possible.

The Communities Gas Service Corp. plans an active expansion of its holdings. The Kansas properties will be extended to serve additional towns. The right to take over from Mr. Moore the Montana Communities Gas Co. has been acquired. This system is being built at present to serve the Judith Valley. It will be placed in operation in about four months serving nine cities and towns and representing an investment of about $1,000,000. The new holding company is negotiating for properties in Oklahoma.

PENTOGA PLANNING TO DRILL SEVERAL WELLS

ELMIRA, N. Y., Aug. 3.—The Pentoga Gas Co. will start drilling operations shortly on the Hughes farm near the Meaker well in the Tioga gas field, according to President Samuel H. Pulford. A part interest in the lease is held by the Lycoming Natural Gas Corp., subsidiary of the Standard Oil Co. of New Jersey.

Drilling will also be started soon in the Wayne Field by the Pentoga company, which is steadily increasing its leasing acreage. Leases totaling 588 acres in the Wayne were acquired last week, bringing Pentoga's leases to more than 5,000 acres. The Pentoga Gas Co. has two producing wells in the Wayne area with a total production of 8,000,000 feet per day.

GAS PRODUCTION IN POLAND

During 1930 no successful drillings were completed in new areas of Poland under exploration, but in view of general world overproduction, the decrease in domestic consumption and exports, this fact is not regarded with concern in that country. Production of natural gas amounted to 489,000,000 cubic meters, an increase of 22,000 cubic meters over production in 1929. From this natural gas was produced 327,403 bbls. of gasoline which is blended with benzine to make motor fuel.

GAS ORDINANCE HELD UP

BORGER, Tex., Aug. 3.—Final passage of a 30-cent gas rate ordinance was postponed for 30 days when the city commissioners announced they would await action of the Texas Railway Commission on the appeal of the Panhandle Power & Light Co. The utility company has appealed to the railway commission in protesting the cut from 50 cents per 1,000 feet to 30 cents.

USE OF NATURAL GAS IN SMELTING MAY REVOLUTIONIZE ZINC INDUSTRY

WASHINGTON, D. C., Aug. 3.—The zinc industry may be revolutionized by a discovery that natural gas can be used to smelt the metal more easily and cheaply than present processes, according to the Bureau of Mines.

The new process, using natural gas instead of coal gas to remove zinc from the ore, was developed by Charles G. Maier, metallurgist of the Pacific experiment station of the bureau. It resulted from a three-year study of ways to improve the quality and reduce the cost of production of zinc.

In Maier's process the zinc ore is placed in a large tube, heated by an electric furnace to about 1,000° C. The natural gas, purified, is fed in from above. The chemical action of the natural gas transforms the zinc in the ore into a gas also. The combined gases pass on into a condenser, where the zinc is deposited as metal that is 99.99 per cent pure.

The Chinese are believed to have originated zinc smelting before 600 A.D. This is the first radical improvement in the process since then, the Bureau of Mines says.

The Maier process, it is explained by bureau officials, permits more economical use of fuel and requires less heat than existing methods. It permits use of larger reduction units, which can operate continuously, ash being removed from below and new ore added from above without interrupting the smelting process. The smelters now in use must cease operation from time to time for cleaning.

More and better zinc is recovered with the new process, the bureau officials say. Less labor is required and maintenance costs in general are reported to be lower.

Zinc is widely used for roofing because weather has little effect on it compared with some other metals. It is used as a coating for "galvanized iron" to prevent rust. Brass is made from a combination of zinc and copper.

Missouri, Oklahoma and Kansas are the largest zinc-producing states, but the metal also is mined in Colorado, Idaho, Montana, Nevada, New Mexico, New York, New Jersey, Tennessee, Utah and Virginia.

PIPE LINE IS TO START GAS DELIVERIES AUG. 8

NEW YORK, Aug. 3.—Brokaw, Dixon, Garner & McKee, oil and gas engineers who are supervising construction of the $40,000,000 Panhandle-eastern pipe line to carry natural gas from Texas to western Indiana, announce that gas will be delivered to the city gates of Jacksonville, Ill., by August 8; Decatur, Il., by August 28; Peoria, Ill., by September 1; Champaign, Ill., by September 10; and Danville, Ill., by September 25. Gas has been turned into the main line to a point just east of the Illinois River.

DEARBORN EXPECTS GAS BOOM

DEARBORN, Mo., Aug. 3.—New interest has been aroused in gas and oil in this section, and George A. Forrester of Wichita, Kans., has succeeded in leasing 5,000 acres just southeast of here and plans to develop this new acreage soon. Drilling will begin about August 15 and it is hoped to find a continuation of the successful Smithville gas fields. Citizens of the vicinity expect a real "gas boom."

GAS REPLACES FUEL OIL

Recent completion of 518 miles of natural gas pipe line running from Lea County, New Mexico, to ore smelters at Bisbee, Douglas and Cananea will eliminate a long-time market for fuel oil which was used by the mining companies. Discontinuance of fuel oil in these smelters will destroy also some of the oil tank car freight business for the steam lines.

LOWER RATES IN KANSAS

TOPEKA, Kans., Aug. 3.—Gas and electricity users in more than 200 Kansas towns benefit by a sharp drop in rates charged by four subsidiaries of the North American Light & Power Co. Agreements for the voluntary reduction were filed with the Kansas Public Service Commission and the new rates became effective August 1.

Gas price cuts were approximately 15 per cent. The voluntary reductions followed a plea by state officials that companies make cuts wherever possible.

GAS COMPANY RECEIVER NAMED IN FORT WORTH

FORT WORTH, Tex., Aug. 3.—District Judge Lattimore has appointed M. R. Carb, Fort Worth realtor, receiver for the Public Service Corp., which serves 12 Texas and Oklahoma cities with gas, on the application of the Keystone Pipe & Supply Co. The petition for the receivership said that the Public Service Corp. owes the complainant company $268,547. Litigants on both sides said the receivership would have no bearing on the continued operation of the gas distribution system. Carb was required to post $10,000 receiver's bond.

Cities served in Texas by the Public lic Service Corp. are Canadian, Higgins, Glazier, Perryton, Spearman, Waka, Farnsworth and Booker. Oklahoma cities are Shattuck, Gage, Fargo and Supply. Sam Horwitz, in charge of operations of the Public Service Corp. in this district, has headquarters in Fort Worth. He is a son of W. M. Horwitz, president of the corporation.

MORRIS VOTES GAS FRANCHISE

By a vote of almost 10 to 1 the citizens of Morris, Okla., approved the granting of a franchise to the Oklahoma Natural Gas Corp. to supply gas service in that city for the next 25 years. A special election was held to vote on the franchise ordinance passed June 23 by the city council. The present gas distribution system in Morris is owned by Oklahoma Natural, which has operated there for years. The only stipulation in the new franchise as to rates is that they shall be the same as in the city of Okmulgee, which also is served by the Oklahoma Natural system. The present rate for residential gas service in Okmulgee is 48 cents per 1,000 cubic feet. The Morris franchise is the first of a number of Oklahoma Natural franchises coming up for renewal this year, including those in Oklahoma City, Shawnee and Tulsa.

INSULL ELECTED CHAIRMAN

Directors of the West Ohio Gas Co. announce the election of Samuel Insull, Jr., as chairman of the company. Robert M. Fuestel was elected vice chairman.

GAS FRANCHISE FIGHT ON IN OKLAHOMA CITY

OKLAHOMA CITY, Aug. 3.—A sharp contest is in sight here as a result of the proposal of the Western Service Corp. to provide natural gas for Oklahoma City at a rate below the 45-cent figure contained in the Oklahoma Natural Gas Corp. franchise which has been submitted to the city council. It was indicated the offer will be 41 or 42, or even as low as 40 cents.

Earl R. Ernsberger, president of the Western Service Corp., signed an agreement in Shawnee, Okla., to give Shawnee the same rate the company would give Oklahoma City or Tulsa in event it gets a franchise in either or both cities. He intimated the rate would be as low as 40 cents and would pay the city 2 per cent gross tax.

The company's bid for gas in Shawnee carried a proposal for 44-cent rate and 5 per cent gross receipts tax on each meter up to 100,000 feet to go to the city. The proposal will be voted upon in Shawnee August 6.

Mr. Ernsberger said his company would like to have its Oklahoma City proposal submitted at the same time the Oklahoma Natural proposal is voted on, September 22. He would not disclose the rate to be offered, but said it would be below the 44-cent rate offer made by the Western Service Corp., July 15, when the Oklahoma Natural proposal was received.

At the same time organization of an anti-Oklahoma Natural franchise group was under way. J. E. Taylor, chairman of the council gas committee, was made chairman of the organization which will sponsor a proposal for a bond issue for a municipal plant, Mr. Taylor said. He added that it was not particularly an anti-Oklahoma Natural movement.

The movement for organized opposition and prospects of a lower rate offer will complicate the campaign of the Oklahoma Natural, which is to begin about September 2.

The councilmen stated if the Oklahoma Natural proposal fails the municipal plant proposal and possibly other offers will be submitted. The council committee on gas already has reported the Western Service adequately financed to back its offer. The chief objection to its previous offer was that it was based upon the city exercising its option to purchase the Oklahoma Natural plant and then selling it to the Western Service.

CHICAGO TO HAVE GAS SOON

Natural gas from Texas soon will commence its 960-mile movement to the homes of Chicago. The last link of the pipe line is nearing completion at Joliet, Ill., where it will be connected with the greater Chicago network of gas lines. The New York engineers, Ford, Bacon & Davis, Inc., are working six main line gangs to speed up the project. Deliveries of gas on a commercial basis should start by September 1, about four to six weeks being required to test and place the main line and compressor stations in operation. Once in service the tremendous natural gas reserves of the Cities Service Co., Middle West Utilities, Standard Oil of New Jersey, Texas Corporation and others will insure the Chicago housewife a plentiful supply.

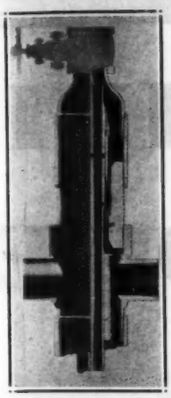
CHERRYVALE DRILLS FOR GAS

CHERRYVALE, Kans., Aug. 3.—The city is drilling for gas on city property in the hope of getting fuel for the city hall and fire department buildings. The local gas rate is $2.75 for the first 5,000 feet, but the Union Public Service Co. is asking for a new franchise with a rate of $2.25 for the first 5,000 feet.

Oil Industry Equipment and Supplies

VIBRATION REDUCED IN NEW TYPE TUBING-HEAD

The Southern States cushion-type tubing-head, manufactured by the Southern States Co., Shreveport, La., formerly available through the company's complete tubing service only, is now being marketed without contingencies.



The tubing is suspended on a cushion of packing held between two packing rings. The weight of the tubing, resting by means of the tubing collar on the top packing ring, forces the packing to expand snugly against the upset end of the tubing. There is vibration in every string of tubing. If the tubing is rigidly suspended, vibration tends to weaken it at or near that point. Threads loosen up or crystallization sets in. But tubing suspended from the cushion of packing in a Southern States head "floats" on this cushion and has no rigid metal-to-metal contact with any of the surface connections.

By coupling any standard 8⅝-inch valve and control head at the top of the flow tee it is possible to remove the tubing and tubing stuffing box under pressure. The operator then has a full gauge opening into the casing. This permits him to pull and rerun the tubing with full sized packer, all under pressure without loss of production. Flow tees can be provided with or without this outside thread as desired.

The flow tee can be made up and connected to separators and tanks during cement time.

The well can be drilled in and tubing run through any standard blow-out preventer, connected to either the male or female threads at the top of the flow tee. When the tubing has been landed and packed off the control head can be salvaged for use on other wells.

The Southern States cushion-type tubing-head consists only of the stuffing box and flow tee. The top collar and swage must be purchased separately, or may be provided from the customer's warehouse stock.

WORTHINGTON GASOLINE METER

The new codes of many states, which require the metering of grease by service stations and garages, are being met by the Worthington Pump & Machinery Corp., Harrison, N. J., pioneer manufacturer of fluid meters and among the leaders in the manufacture of gasoline meters. The new Worthington meter, made of die-cast aluminum to withstand corrosion and erosion, weighs only 3¾ pounds and is adapted to any type or design of grease or oil dispenser. The dial reads from 1 to 8 pints, graduated by quarters, and the totalized register reads to 9.999 pints. The setback knob can move forward only when grease is forced from the dispenser, and all parts of the meter are perpetually lubricated. The meter meets the specifications of all state dealers and measures grease of any temperature within tolerances allowed by the standard United States code.

Hiram E. Cassidy has been elected vice president of the McCarty Co., Los Angeles, Calif., industrial and technical advertising counsellors.

AMONG THE EQUIPMENT HOUSES

J. S. Tritle, vice president and general manager of the Westinghouse Electric & Manufacturing Co., has announced the appointment of T. J. Pace to be assistant to the vice president, in charge of general market planning and research analysis; M. B. Lambert, sales manager in charge of the transportation department; O. F. Stroman, sales manager in charge of industrial department; and R. A. Neal, sales manager in charge of central station department.

The Gustin-Bacon Manufacturing Co. has been appointed exclusive agent by the Goodyear Tire & Rubber Co. for the latter's entire line of oil field rubber goods. C. H. Monnette is in charge of Mid-Continent sales for Gustin-Bacon, with headquarters in Tulsa.

J. C. Cooke, representing the Charles R. Long Co., Louisville, Ky., called on Mid-Continent oil company buyers recently.

E. P. Watrous, former general sales manager of the Crandall Packing Co., is now sales manager of the Paxall Co., Inc., of Cranford, N. J.

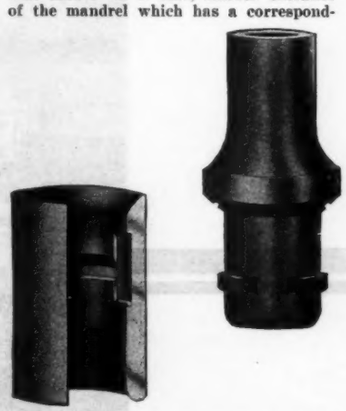
The Texas Contractors Supply Co., of Waco, Tex., will represent the Gardner-Denver Co. on all rock drill products and portable compressors.

The Southern Engine & Pump Co., Houston, Tex., has moved into its new offices and warehouse at 904 St. Charles Street. The company, of which C. A. Leavens is president, has operated in the Gulf Coast region for 23 years.

LINER SETTER IS PUT ON MARKET BY HOPPER

A new liner setter has been brought out by the Hopper Machine Works, Inc., of Bakersfield, Calif. Among its features are a solid adapter, certainty of a smooth, sure entrance and the absence of any delicate latch mechanism.

There are no holes in the walls of the adapter. It has an inside bevel at the top that makes for a sure, smooth entrance of the mandrel which has a corresponding bevel on the bottom. Provision is made for packing in the head so that it can be set down on the adapter and circulation provided through the perforations in the pipe below. When on production the bailer and tools can be run through the adapter without injury to the latch mechanism. This latch mechanism consists of two expanding jaws on the headpiece with their two adjacent ends pivoted.



When unhooking from the liner, the head is turned either to the right or left until it stops. The head is raised until the drill pipe will rotate one-quarter turn. Then, in lifting up, the tapered keys will collapse the expanding jaws and allow the head to be released. In hooking onto the liner the head will enter the adapter with ease because of the beveled entrance. As the shank enters, the two rings are contracted smoothly and gradually as they come in contact with the beveled top of the adapter. The head will enter the adapter in any position and the necessity for hunting for slots is thus eliminated.

The Kewanee Boiler Corp. has moved its Detroit office to 1344 Broadway.

SETTE FAUCET NOW IS PRODUCED BY IMPERIAL

The Sette Faucet for steel drums or barrels, which has been popular for the last eight years, has been manufactured by the Imperial Brass Manufacturing Co. of Chicago since January 1, 1931. The outstanding feature of this faucet is a metal-to-metal seat which, it is asserted, will hold oil, gasoline, kerosene, alcohol and many other liquids. It is self closing and the push lever control handle is so designed that operating the faucet will not tip or tilt the barrel or drum. It is made in the three-fourth inch I.P.T. size.

WELDING SETS EMBODY IMPORTANT ADVANCES

The General Electric Co. announces a new line of single-operator welding sets in which are incorporated many improvements over past designs. This line has been designated the WD-20, as the types are numbered WD-21, 22, 23, 24 and 26, covering the 100, 200, 300, 400 and 600-ampere rating respectively. It includes both portable and stationary sets, the basic form being stationary with but a slight change needed to make it portable. Types include those for operation on either alternating or direct current at all standard voltages and, in the case of alternating current, standard frequencies and 2 and 3-phase gasoline-engine-driven sets will also be available.

Among the principal advantages of the line are the use of two-bearing construction on the a-c types up to 600 amperes; compactness and light weight; and greatly improved welding characteristics. The sets are self-excited with a tapped series field for major current adjustments and a shunt field rheostat giving duplex voltage control.

MEN KNOWN *in* THE EQUIPMENT FIELD

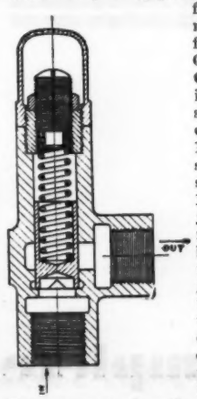
Ray M. Humphreys, recently made assistant director of sales by the Axelson Manufacturing Co., Los Angeles, Calif., entered the service of that organization

Ray M. Humphreys

10 years ago and has been identified with various branches of sales work since that time. In his new position he will handle inside details in connection with the wants of customers. J. C. Axelson, president of the company, has assumed the duties of director of sales and G. A. Axelson has returned to the organization after an absence of three years.

NON-CHATTERING VALVE IS OFFERED BY FULFLO

A new non-chattering piston type oil relief valve, or by-pass, is being manufactured and marketed by Fulflo Specialties Co., Blanchester, Ohio. This valve is made in pipe sizes from three-eighths inch to 1¼ inches, and is suitable for pressures from 20 to 120 pounds. Adjustment can be made by removing the cap and turning the adjustment screw at the top of the valve. The cylindrical piston seat closes off the port in a shearing manner, and does not seat abruptly against the body of the valve, thereby relieving the pounding or chattering noise commonly produced.



An important use of this valve is in connection with oil hydraulic pumping units where a specific pressure is desired to be maintained—especially on machine tool hydraulic mechanism, oil-burning equipment, rams, presses, etc.

The valves are constructed of cast iron with brass piston. These same units are made in all-bronze construction. They are said to require no attention when once installed and set for the desired pressure.

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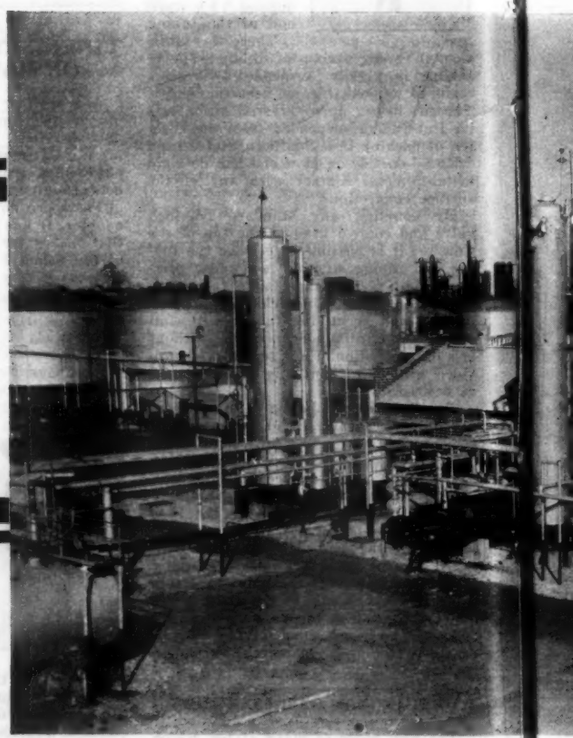

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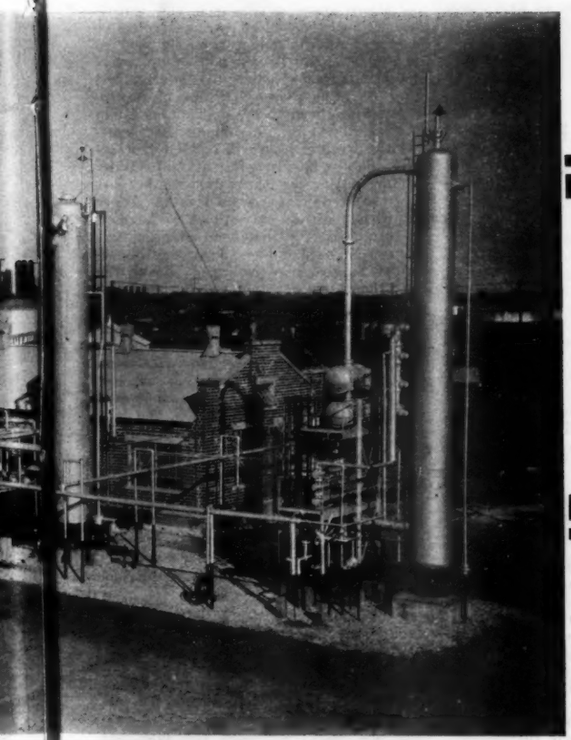
ENGINEERING INC.

QUIPMENT DESIGN



HEAT EXCHANGERS

COMPRESSORS

ABSORBERS

REBOILERS

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al Engineering, Superintendence of Construction, sting and Operation.

UPPLY COMPANIES

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

WANTS CASING RECORD

Are you able to tell me the length of the longest string of casing set in any well in this country? I want the information to settle an argument. I made the statement that a string of 13⅜-inch casing more than 6,000 feet long was set in a well in California. I believe it was in Kern County. Another man asserts that no 13⅜-inch casing string of such length ever was landed anywhere. He says that 6⅝-inch strings of such length may have been set, but not 13⅜-inch. If you know about the well I refer to I would appreciate any additional information you can give me. If not too much trouble, may I ask you to tell me about a few other unusual casing strings?—E. L. O.

The casing record which you probably have in mind was that established by the North American Oil Consolidated, which last March landed and cemented 6,763 feet of 13⅜-inch 68-pound casing in its No. 1 Blauvelt, in the North Dome of Kettleman Hills. This was reported as a world's record. No trouble was said to have been encountered in landing this extraordinary string of pipe, although its deadweight, approximately 217 tons, imposed a terrific strain on the rig and the rest of the equipment involved. The casing was run in and cemented in 18 hours and 35 minutes. The only extra equipment used was a special pump, employed to handle the cement. It required 35 minutes to mix the cement and pump it into the hole, and an hour and a half was needed to force the cement back of the casing.

The necessity of using such large pipe came about through the fact that the company decided it would be necessary to carry the well to about 9,000 feet before completion.

There has been a marked tendency on the part of California operators to use pipe of large diameters. This has been found advisable because of progressive deep drilling and the frequency with which new deeper productive horizons have been encountered. Wells finished with large pipe afford the owner the advantage of several weeks' drilling time in the event that a new deep zone is discovered after the original completion.

It is not uncommon to find operators using long strings of 6⅝-inch casing in California but it is unusual to find anything over 9-inch landed below 6,000 feet. It is common practice for operators in the North Dome of Kettleman Hills to start off with 20-inch and then taper off the diameter of pipe according to the location of the well structurally and the depth to which the drill will have to be carried before completion.

The Associated Oil Co. is believed to hold the best record for strings of 11¾-inch pipe, its deepest job being the landing of 6,280 feet of this size casing in No. 10 Ventura Land & Water lease in the Ventura Avenue Field. The Continental Oil Co. is said to lead the list with 9⅝-inch casing. Its No. 24 Selover, a deep well in the Seal Beach Field of Los Angeles, cemented a string of 9⅝-inch casing at 6,095 feet.

SCALE AND FUEL EFFICIENCY

Has anybody ever figured out with some definiteness what the loss in fuel efficiency is as the result of scale in boilers? I suppose it would be a pretty hard thing to determine, for the amount of scale varies of course not only with the thickness of the deposit but with the character of the water, but perhaps an approximation of the loss at least has been made. Could you tell me?—H.T.D.

The Engineering Experiment Station of the University of Illinois made a study of this subject and its report contains a table showing the following losses in fuel efficiency resulting from the presence of scale in boilers:

Character of scale	Thickness	Composition	Loss of efficiency (%)
Hard	1/50"	Mostly carbonate	9.4
Soft	1/23"	Mostly carbonate	7.2
Hard	1/32"	Mostly carbonate	8.5
Soft	1/25"	Mostly carbonate	8.0
Hard	1/25"	Mostly sulphate	9.3
Hard	1/20"	Mostly sulphate	11.1
Soft	1/16"	Mostly sulphate	10.8
Soft	1/16"	Mostly carbonate	11.0
Hard	1/16"	Mostly carbonate	12.4
Hard	1/16"	Mostly carbonate	12.6
Soft	1/11"	Mostly carbonate	15.0
Hard	1/8"	Mostly sulphate	15.9

The presence of a large amount of caustic soda in the absence of sodium sulphate introduces the probability of hydrogen embrittlement of the boiler metal. Caustic soda in the boiler comes from the introduction of soda ash which, under the temperatures and pressures encountered, decomposes in part to caustic soda. All sodium bicarbonate and all soda ash in the water must be considered potential caustic soda.

The soda ash is obtained in two ways. There are some natural waters containing large amounts of sodium bicarbonate, and waters high in calcium and magnesium bicarbonate when softened by zeolite produce a corresponding amount of sodium bicarbonate. A water containing 21 grains per gallon temporary hardness when softened by the zeolite will introduce 3 pounds of soda ash per 1,000 gallons of boiler feed water. In lime-soda ash softening a large excess of soda ash in incorrectly treated water will produce similar results. Embrittlement has never occurred when the sulphate-carbonate ratio is sufficiently high.

It is sometimes difficult to maintain the proper ratio so sodium phosphate is used and being about 500 times as efficient as the sulphate, a very small quantity is needed. The usual sulphate-carbonate ratio to be maintained follows:

Operating pressure—	Sulphate	Carbonate
150	1	1
200	2	1
250 or above	3	1

WIDE OR CLOSE SPACING?

I have read quite a number of articles on spacing of wells, but it seems to me as though a rule for spacing wells in one area might not be a good one for some other area on account of differences in the texture of the sand that would have a good deal to do with the quickness or slowness with which the sand could be drained. What is the opinion of petroleum engineers as to whether close spacing or wide spacing gives the greatest recovery in the long run? Does repressuring merely get the oil out faster or does it increase the total recovery too?—R. A. E.

It is impossible to formulate the many variables that enter into the problem of well spacing, according to H. C. Miller, senior petroleum engineer in the United States Bureau of Mines, in "Function of Natural Gas in the Production of Oil." If the sand is "tight," the oil heavy and viscous and the gas pressure low, the wells should be spaced closely. How close this spacing should be is a matter that requires detailed study of the area under consideration. In some shallow fields the spacing may be as close as 100 feet. On the other hand, to drain a porous sand containing high gravity oil and plenty of gas, wells are spaced as far apart as 660 feet—one well to 10 acres.

Operators usually are interested mainly in obtaining the greatest possible production in the minimum time and at minimum expense. It generally is agreed that with ordinary production methods wide spacing makes for maximum ultimate production at a minimum expense for development, but does not do this in the short time in which many operators desire to get return of their investment. For this reason many operators space their wells close together and spend greater amounts of money for development work.

It is believed, and many field tests seem to indicate, that in some areas wide spacing and early gas injection will reduce the time that ordinary production methods take to recover the oil when wells are spaced far apart and where formation gas pressure and in some instances gravitational drainage are relied upon entirely to bring the oil to the wells. Gas injection not only shortens the time of realization of maximum recovery, but data obtained indicate that even more oil will be recovered from the sands ultimately that present production methods yield. If it can be proved, as it is expected to be, that wide spacing and gas injection recover more oil at a lower cost per barrel than close spacing and ordinary production methods, operators in favorably situated areas should plan their development programs with subsequent gas injection in mind.

WHY WAS IT CALLED THAT?

STOPCOCKING

Stopcocking, alternately shutting in and opening up a well to increase production, is so called because it is performed by operation of the stopcock in the flow line. Closing in of wells under some conditions allows gas pressure to build up in the sands about them. Sudden release of the pressure by opening the flow-line stopcock causes an increased movement of oil toward the well and this more than makes up for the loss of production experienced while the well was closed.

WHY PIPE COATINGS FAILED

I have been informed that in many cases where pipe line companies went to great expense to put protective coatings on their pipes the pipe has been found to have rusted and corroded just the same. How can it be contended that these coatings pay in the light of such facts? —N. T. D.

The practice of coating buried pipe, like many other oil industry practices that are sound in principle, has undergone changes since it was begun in a somewhat experimental way. Early mistakes had to be corrected and much research work had to be done before the point was reached where a pipe coating could be applied with confidence that it was going to prove a paying investment. W. H. T. Thornhill, secretary of the Underground Pipe Protection Institute, provides the following in answer to your question:

"Many years of research and experimentation have yielded various protective coatings, which, when properly applied to the pipe, can be depended upon to accomplish this desired result. It is realized that there have been failures of protective materials in the past. This condition has created a certain amount of skepticism regarding the worth of all pipe coatings. This is hardly a fair attitude. Many of the coating materials used in the past were offered by concerns lacking proper knowledge of the conditions to be met. It is equally true that good coatings that have been used did not have any opportunity to give real protection due to the fact that they were not applied properly. This is common knowledge.

"An experienced engineer of a large pipe line company operating approximately 7,000 miles of underground steel pipe in the Mid-Continent area, has reached the conclusion that soil corrosion is still a vital problem. In his opinion, the failures of pipe coatings that have occurred on pipe coated prior to three or four years ago are not worthy of much consideration.

"This latter conclusion is based on the fact that he is satisfied that application methods formerly in use were very poor, and that failures of such pipe coatings can be attributed not entirely, but largely, to this fact.

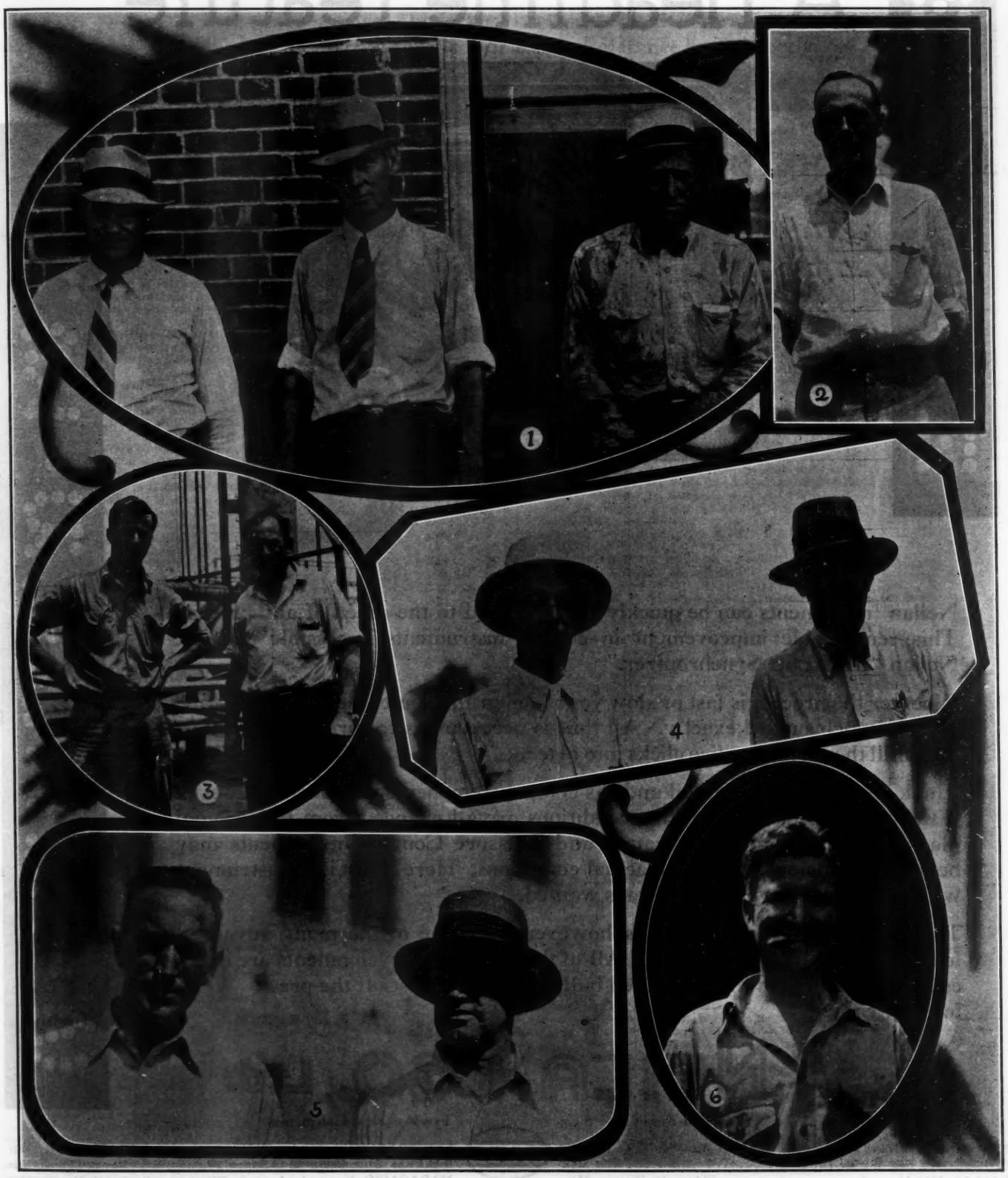
"This view is substantiated to a great extent by the fact that a few years ago he began insisting upon better and more careful application of coatings. He has had occasion to examine his coated lines that have been installed within the last three or four years, and, generally speaking, has discovered that the pipe has been adequately protected.

"There have been failures, but in every case these have occurred where this company had always had consistent trouble in the past. In other words, these are 'hot spots,' and this engineer has come to the conclusion that failures in these hot spots are not due to chemical disintegration of the coating material or to soil distortion, but to electro-chemical action.

"His extensive study of this subject has convinced him that pipe coatings are necessary and are of value, if they are applied properly. It is his opinion now that a new oil trunk line, and especially one of large diameter should be entirely coated while it is being laid.

"One reason for this conclusion is that he has found the reconditioning of large pipe lines so expensive that it really cannot be undertaken. As a consequence, it is his opinion that every effort should be made to prevent any such reconditioning becoming necessary."

Caught While Scouting With The Journal's Cameras



1—G. C. Anderson, superintendent; H. J. Datin, assistant superintendent, and D. S. Shook, yard foreman, El Dorado Refining Company, El Dorado, Kans. 2—L. D. Hare, superintendent gasoline plant, Crosbie and Moran, Inc., Konawa, Okla. 3—A. W. Dwen, manager gas department, and R. G. Dwen, Jr., superintendent gasoline plant, Crosbie and Moran, Inc., Pearson, Okla. 4—Hal Arthur, general superintendent, and Jim Gombert, district superintendent, Atlas Pipe Line Company, Shreveport, La. 5—A. K. Defrance and E. L. Nutt, Cooper Bessemer Corporation, Willow Springs, Tex. 6—F. L. Lebus, Lebus Rotary Tool Company, Willow Springs, Tex.

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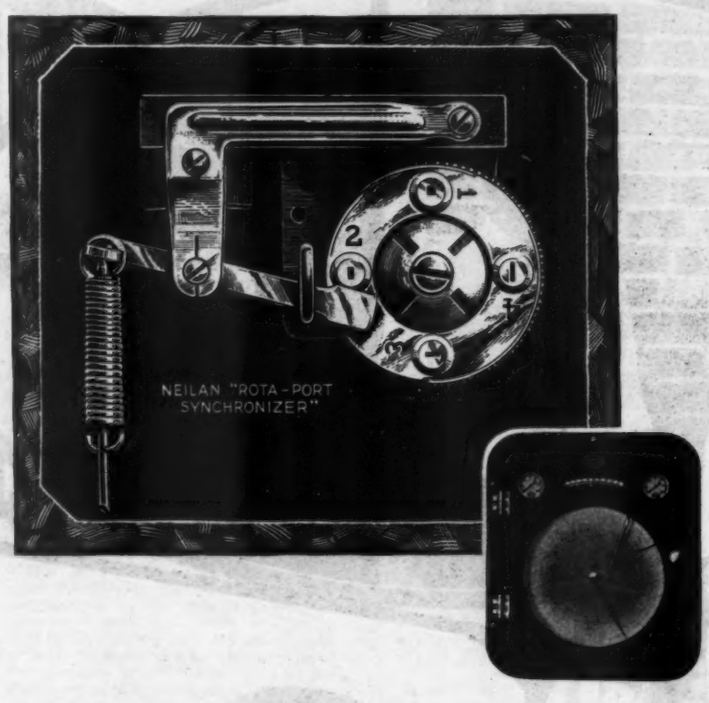

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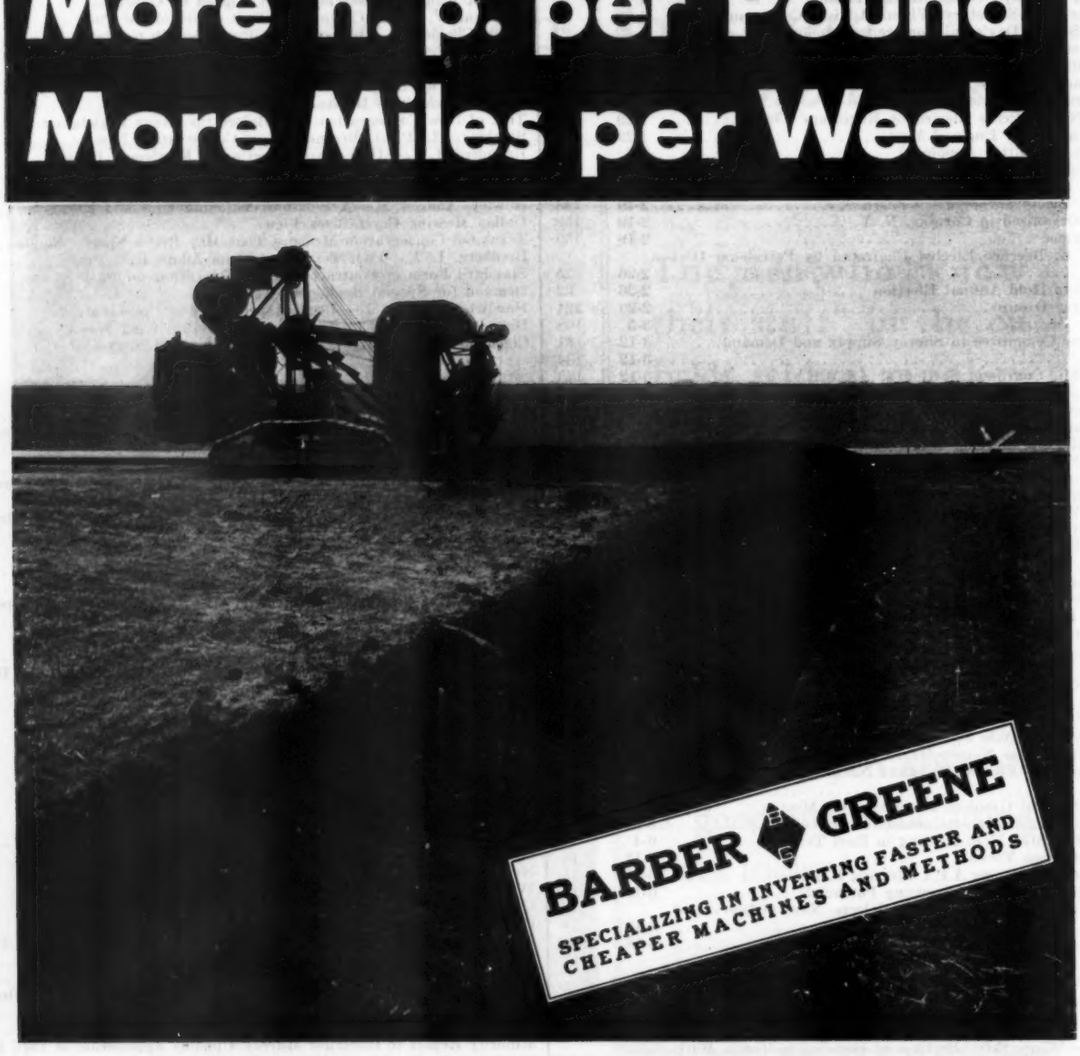

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DEWITT COUNTY

Gibson & Sturm's No. 1 Clark, Dolores Alderete Sur. ..Rigging up.

DUVAL COUNTY

Coffee et al's No. 1 Jose Garza, center Sur. 49 .....T. D. 1,430 ft.; drlg.
L. E. Lockhart's No. 1 Sutherland, 330 ft. from N and W lines of Sur. 511 .....Erecting derrick.
O'Byrne et al's No. 1 Well, B.S.&F. Sur. No. 563 .....T. D. 2,632 ft.; testing sand.
S. J. Carpenter et al's No. 1 Juan Benavides, Blk. 33, Mesquite grant .....T. D. 1,712 ft.; standing.
Frank Gravis' No. 1 Shallert, Sur. No. 255 .....Derrick.
Southern Crude Oil Pur. Co. and Camp's No. 1 Hubbard, 1,650 ft. from S line, 330 ft. from E line of Sur. No. 75 .....T. D. 1,845 ft.; drlg.

FAYETTE COUNTY

Elam & Reynolds' No. 1 Florence, M. Muldoon Sur. No. 13 .....T. D. 2,610 ft.; flowing fresh water.

GOLIAD COUNTY

V. F. Neuhaus' No. 1 J. E. Pettus, 4,750 ft. N, 28 degrees 26 minutes W of extreme SE cor. of 3,418-ac. tract in Maria de Jesus Ybarbo Sur. .....T. D. 4,298 ft.; plugging back to 4,287 ft.

GUADALUPE COUNTY

Camp et al's No. 1 Sue Denman, 450 ft. N of highway, 150 ft. from E line of tract in William Arrington Sur. .....Moving in rig.
Harry Bruner's No. 1 Jim Sherrill, 330 ft. from NW and SW lines of tract in George Allen League ....T. D. 180 ft.; standing.
McGarrity et al's No. 1 A. Wesch, Jr., 150 ft. to N and E lines of farm, H. M. Thompson Sur. .....T. D. 797 ft.; standing.
Schleyer, Atherton and Armstrong's No. 1 Ogletree, Robert Smith Sur. .....T. D. 1,745 ft.; shut down.
Lane et al's No. 1 J. E. Linne, center 263-ac. tract in V. Cortario Sur. .....T. D. 200 ft.; drlg.
W. J. Walton's No. 1 Zoboroski, 700 ft. W line of tract, 500 ft. S of Guadalupe River, in Joseph D. Clements Sur. .....T. D. 2,210 ft.; flowing 3 bbls. daily.

HAYS COUNTY

J. C. Jones et al's No. 1 Byder, John Ingram Sur. ....T. D. 930 ft.; standing.

JIM HOGG COUNTY

Peterman & Minahan's No. 1 Palacious, Sur. No. 231 ..T. D. 1,360 ft.; shut down.
D. C. DeWitt's No. 1 Teofilo Gomez, 1,170 ft. from N line, 150 ft. from W line of Sur. 12 .....T. D. 200 ft.; shut down.

JIM WELLS COUNTY

Carsil Oil & Gas Co.'s No. 3 McGill, 450 ft. S, 300 ft. E of No. 1 McGill in Wm. D. Baldwin Sur. .....T. D. 2,894 ft.; may shoot.

KARNES COUNTY

V. F. Neuhaus' No. 1 Russell, 150 ft. from E line of tract, 150 ft. N of highway, Carlos Martinez Sur. ..Location.

KENDALL COUNTY

Borgett et al's No. 1 W. Haag, 3,804 ft. from N line, 1,506 ft. from W line of W. Avery Sur. .....T. D. 1,197 ft.; drlg.
Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale .....T. D. 2,674 ft.; reaming.
Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur., in the D. L. Richardson Sur., 1 mile NE from Kendalia .....T. D. 1,482 ft.; shut down.
Fred S. Dibbie's No. 1 Ellebrach, Sur. 77, N part of county .....Spudded in and shut down.
Hicks et al's No. 1 Speck & Wiedner, Thomas Sur. No. 27, 2 miles S of Twin Sisters .....Spudded in.
Sartain's No. 1 Lawhon, 30 ft. SE of Perkins' No. 1 Lawhon; taken over at 251 ft. .....T. D. 650 ft.; drlg.

KERR COUNTY

Herbert Oil Co.'s No. 1 J. D. Witt, 1,320 ft. N line, 1,320 ft. W line of Sec. 1,923, W. H. Hamilton Sur. .T. D. 200 ft.; standing.
Evans & Gant's No. 1 Seiker-Mears, C.C.S.D.&N.G.R.G. Sur. No. 1,605 .....T. D. 4,028 ft.; shut down.
Evan's & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28 .....T. D. 1,312 ft.; rig.
Evans & Gant's No. 1 Love in J. Martinez Sur. No. 1,594, 1,320 ft. from W line of survey and 660 ft. S of S line of Sur. No. 1,597 .....T. D. 4,060 ft.; shut down.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 .....T. D. 450 ft.; fishing.
B. M. Hatfield's No. 1 Westland, Blk. 23, Westland Subd. to Kerrville .....T. D. 460 ft.; standing.

KIMBLE COUNTY

C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. .....T. D. 850 ft; standing.

LIVE OAK COUNTY

Catlett & O'Neil's No. 1 Hatcher, 253 ft. from S line, 3,200 ft. from W line of 703-ac. tract in James McGloin Sur. .....T. D. 3,630 ft.; coring.
Henderson Coquat's No. 1 Hewitt .....T. D. 400 ft.; drlg.

LEE COUNTY

Burt et al's No. 1 R. C. Saunders, J. Maxmilian Sur. ..T. D. 4,034 ft.; shut down.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. .....T. D. 3,330 ft.; drlg.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. ..T. D. 2,300 ft.; shut down.

McLENNAN COUNTY

C. E. Groone et al's No. 1 League .....T. D. 1,220 ft.; shut down.

McMULLEN COUNTY

Belt Pet., Inc.'s No. 1 Martin, 150 ft. NW line, 150 ft. to SW line of E. Melon No. 212 Sur. .....T. D. 28 ft.; standing.
Whail, Scherer et al's No. 1 Shiner, Henry Brewer Sur. ..T. D. 2,008 ft.; shut down.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113 ....Rigging up.
J. H. Hickey's No. 1 Jungman, at N end Chicon Lake ..T. D. 650 ft.; shut down.
Star Pet. Co.'s No. 1 Medina Valley Irrigation Co., 150 ft. from S and E lines of Isom Palmer Sur. No. 30 .....T. D. 760 ft.; drlg.
Sunflower Oil Co.'s No. 1 Mofield, J. Brothag Sur. No. 532 .....T. D. 2,100 ft.; drlg.
Yancey Dev. Co.'s No. 1 Fassler, Sur. No. 801 .....T. D. 1,945 ft.; making drill stem test.

MILAM COUNTY

Dil-Tex Oil Corp.'s No. 1 Dilbeck, 450 ft. N and E lines of farm, Fernando Rodrigues Sur. .....T. D. 2,500 ft.; shut down.
Red Bank Oil Co.'s No. 1 Foster, A. G. Berry Sur. ....T. D. 3,512 ft.; making test.
Wilson-Broach Co.'s No. 1 E. L. White, 250 ft. from S and E lines of S. Frost Sur. .....T. D. 1,795 ft.; drlg.

NUECES COUNTY

Southern Crude Oil Pur. Co.'s No. 1 Chas. E. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur. ....T. D. 3,590 ft.; drlg.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175.....T. D. 2,410 ft.; shut down.
Gant-Kilgore and Evans' No. 1 A. D. Auld, C.C.D.& N.G.R.R. Sur. No. 25 .....T. D. 4,007 ft.; abnd.

SAN PATRICIO COUNTY

Jacob, Buzini, Pickett's No. 2 Baldwin, three-fourths mile from S and W lines of tract .....Set surface csg. 300 ft.
United Production Co.'s No. 1 Mayfield .....T. D. 2,975 ft.; drlg.
Welder Oil Corp.'s No. 1 Welder, 1,500 ft. S, 300 ft. W of Aransas Oil Corp.'s No. 1 Welder .....Drlg. 3,700 ft.

STARR COUNTY

Los Olmos Oil Co.'s No. 5-A Kelsey-Bass .....T. D. 431 ft.; comp. 25 bbls.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. ....Rigging up.
Fritz Fuchs' No. 1 L. Ballerstedt, 450 ft. from N line, 750 ft. from E line of tract in Amos Alexander Sur. .....Location.
Fritz Fuchs' No. 1 A. F. Smith, 150 ft. from W line, 750 ft. from N line of tract in D. Kimbor Sur. ....Location.

WEBB COUNTY

Cole Pet. Co.'s No. 4 Benavides, Sur. No. 1,613 .....T. D. 3,010 ft.; drlg.
Eugene Garner, Jr.'s No. 1 Billings, 411 ft. E line, 956 ft. N line of NW NE, Sur. 71 .....Building derrick.
Southern Gas Utilities and O. W. Killam's No. 1 de la Garza .....T. D. 2,211 ft.; comp. 14,000,000 ft. gas; 645 bbls. oil.

WILLIAMSON COUNTY

Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tract in B. C. Low Sur., S of Georgetown .....T. D. 1,110 ft.; drlg.
H. Fritz et al's No. 1 fee, 450 ft. from S line, 1,050 ft. from W line of farm in H.T.&B. Sur. .....T. D. 650 ft.; drlg.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur. .....T. D. 1,066 ft.; drlg.
Sun Oil Co.-Penn Oil Co.'s No. 1 Tudyke.....Core test.

ZAPATA COUNTY

T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8 Subd., Share 7, Partition No. 6, T. Uribe Partition of Jose V. Borrego Sur. .....Rigged up and standing.
Bill Henry et al's No. 1 Gopher Trust estate, Borrego grant .....T. D. 1,365 ft.; standing.
Penny Prod. Co.'s No. 1 Juan V. Cuellar, Jr., et al, 175 ft. NE line, 175 ft. SE line, Poppas Subd., Porcions 33 and 34, Blk. 1, Sur. 2 .....T. D. 2,035 ft.; drlg.
National Oil Co.'s No. 1 Zapata Trust Estate, 617 ft. NW line, 96 ft. NE line, Blk. 97, De Prom Subd., Porcion 6 .....T. D. 690 ft.; drlg.
National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant .....T. D. 1,320 ft.; drlg.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 42)

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5 .....Derrick.
National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e .....Rigging up; well was abd. in Nov., 1929, at 897 ft. by Richland Gas Co.; 208 ft. of 15½-in. csg. in hole.
Southern Carbon Co.'s No. 1-B C. M. Noble, 2,966 ft. N, 1,525 ft. W, cor. Secs. 7, 8, 17 and 18, in Sec. 37-15-6. Location.

SABINE PARISH

Diffie & Barnett's No. 1 Lites (was J. W. Clark's), 330 ft. N, 330 ft. W, SE cor. SW NW, Sec. 34-8-11.....S.D. 105 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13.....Reaming to bottom 3,630 ft.
Langbridge Oil Co.'s No. 1 Stephens, 320 ft. N and E, SW cor. SE NE, Sec. 17-9-11.....S.D. 2,215 ft; repairing rig.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13..Set 8-in. 1,590 ft.
H. W. Perritt's No. 4 Bowman-Hicks, SE cor. SE NE, Sec. 2-7-12 .....Tested small show oil 2,502 ft; S.D; W.O.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13.....S.D. for wtr. 1,200 ft.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 .....S.D. 3,545 ft.

UNION PARISH

Dan Brooks' No. 1 Odus Douglas, 330 ft. S and E, NW cor. NE SW, Sec. 9-22-2.....Derrick.
T. P. Fields, tr.'s No. 1 Summitt Land Co., C W½ NW, Sec. 1-21-1w .....S.D. 2,534 ft; gray sand.
United Gas Public Service Co.'s No. 2 Stevens, 4,593 ft. N, 586 ft. W, SE cor., Sec. 36-21-3.....Completed July 25; 30,708,000 ft. gas 2,151 ft.

WINN PARISH

Gulf Ref. Co.'s No. 1-A Bodcaw Lbr. Co., 911 ft. N, 970 ft. E, SW cor., Sec. 4-10-5w.....Drlg. lime and shale 3,780 ft.

ARKANSAS

CHICOT COUNTY

R. R. Smith's No. 1 Lytle, 660 ft. N, 660 ft. E, C, Sec. 21-28-3 .....T.A. 2,925 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenwelder, Rhea & Kitchen, Sec. 13-17-22 .....Cored sandy shale 800-04 ft; no show.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C NW SE, Sec. 4-20-3 .....S.D. 1,252 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w.....Rigging up.

CLEBURNE COUNTY

(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 .....S.D. 3,740 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, 330 ft. E, 40 ft. S, NW cor. SE NE, Sec. 20-10-13.....S.D; W.O. 2,369 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. NE, Sec. 11-9-15.....S.D. funds 2,520 ft.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 R. L. Hardy, SW cor. NE NE, Sec. 6-13-7.....Rigging up.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16.....Junked old hole 1,304 ft; skidded 30 ft. S; set 12½-in. csg. 62 ft; drlg. 948 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 220 ft. W, NE cor. NE SW, Sec. 5-8-7.....Drlg. gumbo 2,198 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-29.....Location.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 .....S.D; W.O. 2,570 ft.

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27.....Location.

OUACHITA COUNTY

Copenhaven et al's No. 1 Elliott, Sec. 11-15-17.....Dry and abd. 2,210 ft.
Boling & McLeon's No. 1 L. D. Nealy, 150 ft. S, 150 ft. W, NE cor. SE SW, Sec. 25-16-15.....S.D. 2,036 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 36-8-14.....T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24.....S.D; W.O. 1,020 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26.....S.D; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 .....S.D; waiting on csg. 1,360 ft.

SEBASTIAN COUNTY

Ozark Nat. Gas Co.'s No. 1 E. O. Girard, C NW NW, Sec. 34-8-30 .....Location.

UNION COUNTY

Chapman & Wilson's No. 1 A. H. Hadley, 320 ft. N, 330 ft. E, SW cor. NE SW, Sec. 3-18-13.....600 ft. fluid 30% S.W. in hole; T.A. 3,570 ft.

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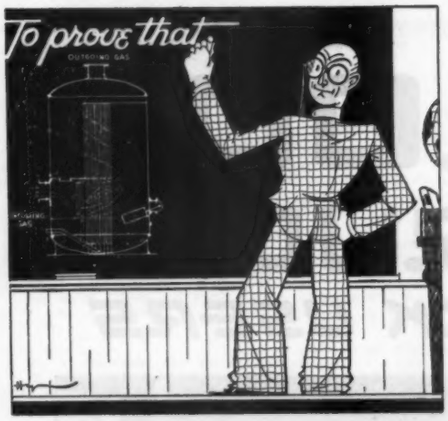

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O—Oil recovered from mist.

To prove that the MIST-D-FIER recovers oil in paying quantities.

Let L+G+M+D—L+G—M+O+D
By cancellation O—2M

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WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30.....S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeier & Luckett's No. 1 Falcon, Sec. 36-7-21.....S.D. 5,710 ft.

EAST TEXAS
BOWIE COUNTY

Hindeman & Ball's No. 1 Merritt (was Maud-Redwater Oil Co.'s), 175 ft. N, 175 ft. E, SE cor. G. W. Hardidge 100-ac. tr. on Floyd Merrit tr. in Y. S. McKinney Sur. .....S.D. 2,520 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W of SW cor. J. H. Dyer Sur. .....S.D. 30 ft.
Lee Timberlake et al's No. 3 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. .....S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. .....S.D. 3,600 ft.

CASS COUNTY

E. K. Atkinson's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. .....S.D. 3,021 ft.
R. G. Baker's No. 1 W. R. Caver, on W. R. Caver 75-ac. tr., John Lick Sur. .....Coring 3,572 ft.
Davis & Pigg's No. 1 Roy Brian, SW cor. Roy Bryan 33-ac. tr., Albert H. Latimer Sur. .....S.D. 2,055 ft.
Everts Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S, and W, NE cor. 69-ac. Whittington tr., L. Strong Sur. .....S.D. 3,922 ft; waiting on D.S.
Geo. McKamie's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. .....S.D; W.O. 4,001 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. .....Drlg. hard lime 4,235 ft.
John Nelson's No. 1 T. A. Irvin, 200 ft. S and E of NW cor. McNary Harris Sur. .....Drlg. shale 3,215 ft.
Olds & Smith's No. 1 Atheny, 3,056 ft. W-E line, 856 ft. S-N line, J. C. Byers Sur. .....S.D. 3,100 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ...Reaming to bottom 2,280 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. .....S.D. 955 ft.

HARRISON COUNTY

Gholson et al's No. 1 Bivins Farm Co., on J. K. Bivins, Jr.'s 320-ac. tr., Thos. Toby Sur. .....S.D. 2,759 ft.
Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. .....Set 10-in. 240 ft; S.D; W.O; (corrected).
O. O. Olford et al's No. 1 R. W. Bolding, 330 ft. E of SE cor. J. B. Cullen's 161-ac. tr., 300 ft. N of N line of Mrs. C. L. Brown's 20-ac. tr., W. W. O. Stanfield Sur. .....S.D. 2,702 ft.
O. H. Parkening's No. 1 T. J. Taylor, C, Blk. 32, W. H. Payne Sur. .....S.D. 2,530 ft.
Ryan Consolidated Pet. Corp.'s No. 1 Dr. H. H. Key, 1,500 varas N of SE line, 500 varas E of SW line, of E. Carroll Sur. .....Drlg. 5,282 ft.
Ryan Consolidated Pet. Corp.'s No. 1 J. M. Furh, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. .....Derrick.
Thomas & Kinsey's No. 1 J. R. Watson, Thos. Iden Sur. .Rigging up.

MARION COUNTY

Gist, Claunch & Dodson's No. 1 Miller, 1,470 ft. E line, 725 ft. N line, SW cor. H. Fulgran H.R. Sur. .....S.D. 300 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 3,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. .....S.D. 2,380 ft.
Hindeman & Rhondo's No. 1 McGaughey, 1,547 ft. W most northerly SW cor., 1,633 ft. N most northerly S line, W. J. Willis Sur. .....S.D. 3,910 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. .....Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur...Spudded and S.D. (corrected).
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. .....S.D; changing to heavy rig 550 ft
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in Jas. Hanks Sur. .....Set 12½-in. 400 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. ....S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. ....S.D. 2,280 ft.

SHELBY COUNTY

I. M. Bradley's No. 1 Ashberry (no check), G. W. Mitchell Sur. .....S.D. 3,280 ft.
E. L. Chapman's No. 1 Pickering Lbr. Co., C. E. Henry (headright) .....Trying to kill gasser; T.D. 3,864 ft.
Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ...Arranging to set 6⅝-in. 3,127 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. .....Drlg. shale 1,220 ft.
H. P. Glidden's No. 1 Pickering Lbr. Co., Jonas Harrison Sur., 300 ft. E of NW cor., 150 ft. S of N line at right angles Pickering 59-ac. tr. .....Fishing for D.S. 3,020 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. .....S.D. 2,600 ft; drlg. wtr. well.
Wm. A. Stephens' No. 1 Foster & Billingsly, 150 ft. W of CEL, Foster & Billingsly's 109-ac. tr., J. Bowlin Sur. .....S.D. 1,540 ft.
T. A. Martin's No. 1 J. B. Bush, S 8° E, 2,000 ft. from NW cor. J. B. Bush's 77-ac. tr., thence E at right angles to said line 200 ft., Alfred Lindsey Sur. ....Derrick.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. .....Drlg. shale 2,700 ft.
Geo. N. Pace's No. 1 E. H. Powers, western J. Timms Sur., 150 ft. E of W line, 200 ft. N of S line Powers 126-ac. tr. .....Derrick.
Ridgeway et al's No. 1 Polley, Domingo Gonzales Sur., 2,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. .....Derrick.
Schultz et al's No. 1 Hughes, 150 ft. SW cor. Hughes' 110-ac. tr., J. Clay Sur. .....Drlg. lime 3,915 ft.
Sloan Prospecting Co.'s No. 1 Sanford, approximately 300 ft. N and 200 ft. E, SW cor. B. Sanford 49-ac. tr. in M. M. Van Sur. .....S.D. for wtr. 3,604 ft.
A. D. Smith's No. 1 Y. D. Carroll-J. A. Parker Sur., 1,500 ft. N, 300 ft. W, SE cor. J. A. Carroll Sur. ....Drlg. 1,600 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. .....S.D. 20 ft; waiting on D.S.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. .....Drlg. chalk 3,240 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 42)

Lyons & Neely's No. 1 Duggan, NW SE, Sec. 14-7-11....Location.
Magnolia Pet. Co.'s No. 1 Peterson, 200 ft. S and E, NW cor. NE NE, Sec. 10-7-11.....Set 8-in. 2,370 ft; T.D. 2,397 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 .....S.D. 400 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11.....S.D. 88 ft.
Sabine Royalties Co., Inc.'s No. 1 Hill, 400 ft. S, 200 ft. E, NW cor. NE NE, Sec. 5-7-11.....Completed July 17; 5 bbls. at 2,546 ft.
The Texas Co.'s No. 1 G. L. Nabours, 1,120 ft. S, 530 ft. W, NE cor. SE, Sec. 3-7-11.....Reaming to set csg. 2,368 ft.

Houston-Sabine Prod. Co.'s No. 1 Sabine Lbr. Co. (was Triangle Pet. Co.'s No. 2 Sabine Lbr. Co.), 330 ft. N and E, SW cor., Sec. 36-8-12.....S.D. 2,440 ft.

ARKANSAS

UNION COUNTY—EL DORADO

Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15.....Cored S.W. sand; streaks dead heavy oil 4,858-60 ft.

Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-16 .....S.D. 2,608 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13.....T.A. 3,586 ft.

Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13.....Location.

EAST TEXAS

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 14 Werner, 341 ft. S, 300 ft. W, NE cor. Werner 74-ac. tr., Ben C. Jordon Sur. .....Bailed S.W. 4,754 ft.

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. ....Drlg. 2,925 ft.

Dillon & Braham's (was W. G. Banks et al's) No. 1 C. O. Baldwin, 1,395 ft. W, 1,362 ft. S, NE cor. Baldwin 290 ac., in Hampton West Sur. .....S.D. 1,555 ft.

United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. ....Location.

Southwestern O. & G. Co.'s No. 1 E. R. Vinson, 3,095 ft. S, 1,001 ft. W, NE cor. C. T. Anderson Sur. .....S.D. 2,650 ft.

MISSISSIPPI

HINDS COUNTY

Hopkins Gas Co.'s No. 1 Ridgeway, 680 ft. N, 70 ft. W, SE cor. NW, C, Sec. 2-5-1e.....10,000,000 ft. gas 2,474 ft.

Love Pet. Co.'s No. 3 Maley, 2,780 ft. E, 960 ft. S, NW cor., Sec. 15-5n-1e .....Set 6⅝-in. csg. 2,440 ft; drlg. plug.

WILDCAT OPERATIONS IN MISSISSIPPI

ADAMS COUNTY

Company, farm and location—	Remarks:
Ark-La P. L. Co.'s No. 1 Brandon Hall Farms, 201 ft. from W line, 390 ft. from S line, Lot 32, Bradon Subd., Sec. 61-18n-1w	Rigging up.

CLAY COUNTY
(Cable tools)

Ohio Oil Co.'s No. 1 Cantrell, NE cor., Sec. 16-15-5.....Arranging to set 7-in. csg. 4,474 ft.

HINDS COUNTY

Attkisson & Dyer's No. 1 Downing et al, SE NE, Sec. 27-6-1 .....Completed July 26; 1,000,000 ft. gas 2,545 ft.

Community Gas Co.'s No. 1 Millsaps College, Sec. 34-6n-1e .....Set 10-in. 809 ft; drlg. 1,541 ft.

Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e .....S.D. 74 ft.

Southern Pet. Co.'s No. 1 Wilson (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e .....S.D. 20 ft; W.O.

HUMPHREYS COUNTY

Danciger O. & G. Co.'s No. 1 Belgrade Lbr. Co., C NW, Sec. 29-14n-4w .....S.D. 50 ft.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 .....S.D. for fuel 2,310 ft.

JEFFERSON COUNTY

Stokes & Cleve Love's No. 1 Phillips, Sec. 14-10n-2w....S.D. for fuel 960 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19.....S.D. 3,015 ft.

McAlpine et al's No. 1 Cowart, sec. hole, Sec. 2-12-19....Drlg. 3,357 ft.

NEWTON COUNTY

Bob Talton et al's No. 1 Majure, 400 ft. N, 600 ft. W, SE cor., Sec. 25-16n-11e .....Rigging up.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e..Drlg. 1,400 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 13-5n-2e.....S.D. 31 ft.

Gulf Ref. Co.'s No. 1-A Hanna, Sec. 23-6n-1e.....Drlg. 2,135 ft.

Harding & Flint's No. 1 Webb, center Lot 32, Blk. B, East Jackson Pl., Jackson City Subd., Sec. 12-5-1....Derrick blown down.

R. A. Moore et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e..S.D. 900 ft.

Square Deal O. & G. Co.'s No. 1 Spann, NW cor. SE NE, Sec. 13-5n-1e .....Began July 24; set 10-in. 107 ft.

Union Drlg. Co.'s No. 1 Pate Royalty Co., NW cor. Lot 11, Blk. F, E. Jackson Pl., First Addn., Sec. 12-5n-1e. Completed July 23; 49,528,000 ft. gas 2,391 ft.

Willis & Culley's No. 1 Applewhite & Holden, 10 ft. N, 60 ft. E, SW cor., Sec. 12-5n-1e.....Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9.....Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 .....S.D. 2,607 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Henly (was Cumberland Oil Co.'s No. 1 Henly), SE NW, Sec. 15-21n-11e .....Arranging to resume drlg. 1,795 ft.

WINSTON COUNTY

Miss. Drlg. Co.'s No. 1 Scarbrough, NW cor., Sec. 15-12-14 .....S.D. for fuel 3,565 ft.

YALOBUSHA COUNTY

Collett-Carter Oil Co.'s No. 2 Blackmur, 990 ft. W, 285 ft. N, C, Sec. 11-11-4 .....T.A. 3,478 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 37)

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 14 Boyt, H.&T.C. Sur. No. 22, 500 ft. N of No. 10 .....Total depth 5,833 ft.; plugging back.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTIES

Humble Oil & Ref. Co.'s No. 8 Sterling, James McFaddin Sur., 150 ft. from N line and 1,650 ft. from E line of 512-acre tract .....Rigging up.

REFUGIO—REFUGIO COUNTY

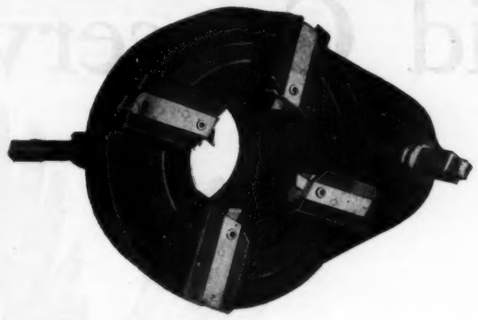
Houston Oil Co.'s No. 6 Pratt-Hewitt-Rooke (D.D.), Thomas Mullen Sur., 1,150 ft. N and 200 ft. W of SE cor. of tract .....Sand 3,699-2,705 ft.; comp. flowing 200 bbls. pipe line oil.

Mission Drilling Co.'s No. 1 O'Brien (W.O.), SW cor. 12⅛-acre tract, Refugio Town Tract.....Total depth 6,449 ft.; sidetracked old hole 5,054 ft.; coring sand 6,400 ft.

Moody-Seagraves Producing Co.'s No. 4 O'Connor, Refugio town tract, 150 ft. from N line and 1,282 ft. from W line of 60-acre tract .....Sand showing gas 6,477 ft.; cmtd. 5 3/16-in. csg. 6,425 ft.; drlg. plug.

T. P. Morgan's No. 1 Lambert, Refugio town tract, 450 ft. from N line and 650 ft. from W line of 105-acre tract .....Coring hard shale 6,471 ft.

Pearson Properties' No. 3 Ryals, 536 ft. from W line and 150 ft. from S line 52-acre tract, Refugio Town Tract .....Cleaning hole to deepen 5,485 ft.



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United Prod. Corp.'s No. 6 O'Brien, 150 ft. from S line of tract, 350 ft. W of No. 3 ..... Oil sand 6,433-51 ft.; twisted off joint drill stem; waiting orders.

United Prod. Corp.'s No. 1-B W. J. Fox, Wm. Hews and L. Brown Sur., 2,541.7 ft. NE along SE line from SE cor. lease and 300 ft. NW at right angles ..... Sand showing oil 5,865-72 ft.; cmtd. 5 3/16-in. csg. 5,864 ft.

United Prod. Corp.'s No. 4 M. F. Lambert, Wm. Hews and L. Brown Sur., 2,514.7 ft. NE along NW line from SE cor. lease and 330 ft. NW at right angles... Drlg. sticky shale 2,849 ft.

SOUTH LOUISIANA FIELDS
LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co.'s No. 5-A Farquahar, 105 ft. S and 110 ft. E of NW cor. SW NE Sec. 8-10s-9w ..... Drill stem stuck 6,079 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor. Sec. 47-9s-2w ..... Drlg. hard sand 5,370 ft.

EDGERLY—CALCASIEU PARISH

Rex Petroleum Co.'s No. 3 Prairie Narroni, Sec. 21-9s-11w, 125 ft. from S line and 50 ft. from W line of tract ..... Drlg. hard sand 3,609 ft.

HACKBERRY—CAMERON PARISH

R. E. Seiss' No. 2 J. M. Vincent ..... Total depth in rock 2,042 ft.; cmtd. 6⅝-in. csg. 2,004 ft.

J. G. Sutton's No. 2 Erwin, Sec. 13-12s-10w..... Drlg. sand and rock 2,125 ft.

The Texas Company's No. 8 State ..... Derrick.

VINTON—CALCASIEU PARISH

Vinton Pet. Co.'s No. 7 Matilda Gray (D.D.), 157 ft. N and 674 ft. W of SE cor. SW NE of Sec. 33-10s-12w.. Coring sand 3,340 ft.

PORT BARRE—ST. LANDRY PARISH

The Texas Company's No. 10 Botney Bay, Sec. 4-8s-5e, 100 ft. S line and 100 ft. E line, Daniel 55-acre tract.. Abnd. in salt 4,184 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Pet. Co.'s No. 2 Sweet Lake, Sec. 5-13s-7w ..... Total depth 7,345 ft.; reaming.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 767 fee, 328 ft. E and 180 ft. N of C Sec. 29-9s-10w ..... Oil sand 3,737-45 ft.; cmtd. 9⅝-in. csg. 3,737 ft.

MISCELLANEOUS WILDCATS
TEXAS
AUSTIN COUNTY

Parmerson & Cafferkey et al's No. 1 W. N. Schlecte, John Fitzgibbons Sur., 1,350 ft. from SE line and 3,100 ft. from NE line of survey ..... Shut down 1,502 ft.

BRAZORIA COUNTY

Cullen & West's No. 1 Nash, Thomas Alsbury Sur. No. 4, 2,600 ft. E and 1,240 ft. S of SW cor. Mrs. R. L. Young 1,482-acre tract ..... Drlg. sandy shale 3,512 ft.

The Texas Company's No. 1 Belcher, Manvel, 167 ft. SE of NW line and 223 ft. of NE of SW line, Lot 18, Blk. A, Suburban Gardens Subd. ..... Drlg. shale and lime 4,501 ft.

United Oil Syndicate's No. 1 Levitt, 900 ft. from W line and 400 ft. from S line of John Peske Sur. ..... Spudded and shut down.

BURLESON COUNTY

Reynolds Oil Co.'s No. 1 Harris, 500 ft. from W line and 400 ft. from N line of J. M. McKean Sur. ..... Shut down 400 ft.

F. Marek & Son's No. 1 Marek, N. A. McFaddin Sur., 150 ft. from SE line and 500 ft. from SW line of 84.42-acre tract ..... Location.

Marts et al's No. 1 W. H. Boyett, W. McWilliams Sur., 3,168 ft. N of N cor. of City National Bank 208-acre tract and 300 ft. SE of NW line of Boyett tract.. No report; previous report cmtd. 10-in. csg. 305 ft.

J. E. Stubblefield's No. 1 J. B. Mitchell, 81 ft. SW and 4,340 ft. SE of S cor. of Joseph Henson Sur., in A. T. Woolridge Sur. ..... Shut down 518 ft.

FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 1 A. P. George, J. Rabb Sur., 300 ft. S and 305 ft. E of NW cor. A. P. George 519-acre tract ..... Sand 3,485-3,519 ft.; 9⅝-in. csg. at 3,472 ft.; set 40 ft. 6⅝-in. screen and 3 jts. blank with 2½-in. tubing to top; comp. flowing 1,000 bbls. pipe line oil, ¾-in. choke.

Cullen & West and Gulf Prod. Co.'s No. 1-B Lockwood & Sharp, J. Rabb Sur., 300 ft. N and 300 ft. W of NW cor. of A. P. George 200-ac. tract or 600 ft. due W of No. 1-A Lockwood ..... Rig.

GRIMES COUNTY

Rianjo Oil Co.'s No. 2 Cuthrell, Pat B O'Connor Sur., C of 110-acre tract ..... Clay 96 ft.; cmtd. 10-in. csg.

HARDIN COUNTY

Plummer & McDaniel's No. 1 T. S. Reed, 2,500 ft. from W line and 500 ft. from N line of T.&N.O. Sur. No. 296 ..... Shut down in gumbo and lime 1,326 ft.

D. O. Speight's No. 1 Guedry, 4 miles S of Batson ..... Shut down in gumbo 4,056 ft.

HARRIS COUNTY

Hattie Baldwin's No. 1 Krahn, 250 ft. out of NW cor. L. Finn Sur. ..... Shut down 492 ft.

Giveens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Total depth 902 ft. in sand and clay; set 2 jts. 12½-in. csg.

Humble Oil & Ref. Co.'s No. 5 Minnetex, Mykawa, 150 ft. from S line and 200 ft. from W line, Lot 261, Wm. Lovett Sur. ..... Location.

J. P. Hunnicutt's No. 1 Haney, T. Pitching Sur., 150 ft. out of NE cor. of Geo. E. Haney, 730-acre tract .... Location.

JACKSON COUNTY

Chicago Gulf Co.'s No. 1 Rogers, SE cor. of Blk. 14, N. Rodriguez Sur. ..... Total depth 3,952 ft.; cmtd. 6⅝-in. csg. 3,945 ft.

Chicago-Gulf Oil Co.'s No. 9 Drushell, Edna F. Rodriguez Sur., 1,080 ft. N 58° E No. 8 ..... Location.

Francitas Oil & Land Co.'s No. 1 Thrull, 3,250 ft. SW of N cor., P. Green Sur., 540 ft. SE of E bank Caranchua Creek ..... Derrick.

LIBERTY COUNTY

J. R. Ingram's No. 1 C. T. Palmer, James Fenner Sur., 1,000 ft. from W line and 850 ft. from S line of tract.. Drlg. gumbo 1,820 ft.

Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; shut down.

Tucker et al's No. 1 Bell, H.&T.C. Sur. No. 4 ..... Shut down 2,970 ft.

MATAGORDA COUNTY

H. C. Cockburn's No. 3 Hawkins, Shepherds Mott, 4,810 ft. SE along SW line of Farnum Fry Sur., thence 242 ft. NE at right angles ..... Total depth 5,034 ft.; drlg. sidetracked hole in hard, sandy lime 4,115 ft.

MONTGOMERY COUNTY

Price & Wilhite's No. 2 Juerges ..... Abnd. 4,590 ft.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur., No. 1, 500 ft. from N line and 350 ft. from E line of tract ..... Total depth 4,602 ft.; sidetracked at 1,200 ft.; last depth reported 2,200 ft.

Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... No report.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,124 ft.

T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Derrick.

Sunshine Oil Co.'s No. 1 Olliver, A. Viesca Sur., 600 ft. NE along SE line from S or SW cor. of 50-acre tract and thence 200 ft. NW at right angles ..... Derrick.

Trans-Coastal Oil Co.'s No. 1 M. E. Roberts, J. P. Rumayor Sur., 350 ft. from W line and 150 ft. from N line of tract ..... No report.

REFUGIO COUNTY

Bianco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 16, Bonnie View Ranch Subd. ..... Standing 4,263 ft.

Humble Oil & Ref. Co.'s No. 1 O'Connor, John Keating Sur., 6,013 ft. S from NE cor. along SE line of Lon T. Rios Sur., thence 7,375 ft. W at right angles in John Keating Sur. ..... Rigging up.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,255 ft.; cmtd. 6-in. csg. 1,218 ft.

Allied Pet. Co.'s (Texas Southern Pet. Co.'s) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... Total depth 4,958 ft.; reaming to bottom.

VICTORIA COUNTY

Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line ... Drlg. shale and shell 4,901 ft.

The Texas Company's No. 3 McFaddin, S 15° W., 6,200 ft. and N 75° W 1,350 ft. out of NE cor. John M. Rine Sur. ..... Sand 3,079 ft.

United Prod. Corp.'s No. 5-A McFaddin, 4,250 ft. N along extended E line of C. L. Mann Sur., in Maria Traviesa Sur. ..... Derrick.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-acre tract ..... Rig.

WASHINGTON COUNTY

Joe Baker et al's No. 1 Kramer, Brenham, 600 ft. S and 300 ft. W NE cor. 92 acres ..... Drlg. shale and lime 3,930 ft.

Penn-Tex Oil Co.'s No. 2 Kamas Brenham, S. M. Williams Sur. ..... Drlg. hard sandy shale 3,286 ft.

Yequa Oil Co.'s No. 1 Graves, S. Ciampit Sur., 200 ft. from N line and 900 ft. from W line 111-acre tract.. Abnd. 2,641 ft.

SOUTH LOUISIANA
CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Shut down 875 ft.

I. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Standing 6,568 ft.

Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Shale 3,265 ft.; preparing to resume drlg.

Dr. Thomas et al's No. 1 John Hewitt ..... Location.

Vacuum Oil Co.'s No. 1 Wait (D.D.), 225 ft. out of SE cor. Sec. 12-9s-7w ..... Sand showing oil 6,961-79 ft.; cmtd. 7-in. csg. and 1 jt. screen; trying to kill salt water flow between 7-in. and 9⅝-in. csg.; well flowing through ½-in. choke, 1,625 lbs. pressure.

CAMERON PARISH

Vacuum Oil Co.'s No. 2 Cameron Meadows, 3,120 ft. S and 1,900 ft. W from NE cor. Sec. 21-14s-9w (500 ft. S No. 1) ..... Total depth 4,312 ft.; drill stem stuck; sidetracking 2,953 ft.

The Texas Company's No. 7 State, Calcasieu Lake ..... Location.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 19 Lake Peigneur, Sec. 58-12s-5e, 300 ft. from No. 5 in line with Nos. 5 and 18 ..... Cap rock 842 ft.; abnd.

Jefferson Lake Oil Co.'s No. 20 Lake Peigneur, 300 ft. N No. 3 and 300 ft. W No. 11, Sec. 58-12s-5e..... Cmtd. 18-in. csg. 60 ft.

IBERVILLE PARISH

Standard Oil Co.'s No. 1 Myrtle Grove-Wilbert, Bayou Choctaw, Sec. 52-9s-11e 250 ft. W No. 1 Gay ..... Drlg. 300 ft.

Standard Oil Co.'s No. 7 Wilbert, Bayou Blue ..... Derrick.

Standard Oil Co.'s No. 6 Schwing, Bayou Blue, Sec. 73-9s-11e, 317 ft. S of No. 2 ..... Preparing to resume drlg. 3,526 ft.

Standard Oil Co.'s No. 7 Schwing, Bayou Blue, Sec. 74-9s-10w, N 45°, W 1,300 ft. from No. 5 ..... Total depth 1,350 ft.; sand showing oil 1,307-12 ft.; shut down pending completion No. 6.

PLAQUEMINES PARISH

Humble Oil & Ref. Co.'s No. 2 State, Lake Grand Ecaille, Sec. 14-20s-26e ..... Cmtd. 12-in. csg. 635 ft.

TERREBONNE PARISH

The Texas Company's No. 1 La.L.&E., Bay St. Elaine ... Drlg. shale 5,712 ft.

The Texas Company's No. 3 La.L.&E., Bay Junop ..... Location.

The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.

The Texas Company's No. 6 State, Lake Barre ..... Salt 3,848-4,001 ft.; sidetracked to sand showing oil 3,783 ft.; cmtd. 9⅝-in. csg. on bottom.

The Texas Company's No. 10 State, Lake Barre ..... Location.

The Texas Company's No. 11 State, Lake Barre ..... Rig.

The Texas Company's No. 12 State, Lake Barre ..... Location.

The Texas Company's No. 14 State, Lake Barre ..... Location.

The Texas Company's No. 6 State-Lake Pelto (D.D.), 1,650 ft. N and 670 ft. W from SE cor. tract, Sec. 8-23s-18e ..... Rig up to deepen 1,355 ft.

VERMILLION PARISH

Pure Oil Co.'s No. 1 Alliance Land, Sec. 34-11s-1w, 2,600 ft. N and 300 ft. E of SW cor. section ..... Drlg. hard, sandy lime 6,141 ft.

Pure Oil Co.'s No. 2 Southwest Louisiana Land Co., 1,300 ft. E and 300 ft. S of NW cor. Sec. 4-12s-1w.... Location.

WEST FELICIANA PARISH

Putnam Syndicate's No. 2 Como Plantation, Sec. 51-1s-4w. Shale and lime 2,050 ft.; waiting on 8¼-in. csg.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 34)

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Shut down 1,645 ft.

KAY COUNTY

Lewis et al's No. 1 Harris, SE NW Sec. 14-26-1 ..... Location.

Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... Cleaning out 3,693 ft.

Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w ..... Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 8-7-18w ..... Drlg. 320 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE Sec. 16-6-19 ..... Shut down 1,542 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shut down 5,733 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19 .. Shut down 1,011 ft.

OKFUSKEE COUNTY

E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.

Shepard et al's No. 1 Nevens, SE NW SW Sec. 3-12-10. Shut down 3,690 ft.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w ..... Shut down 1,200 ft.

L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... Shut down 5,515 ft.

J. F. Cuniff, trustee's No. 1 Church Land, NE NW SE Sec. 17-12-4w ..... Shut down 6,700 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW Sec. 6-20-5 ..... Shut down 1,950 ft.

Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5.... Rig.

PITTSBURG COUNTY

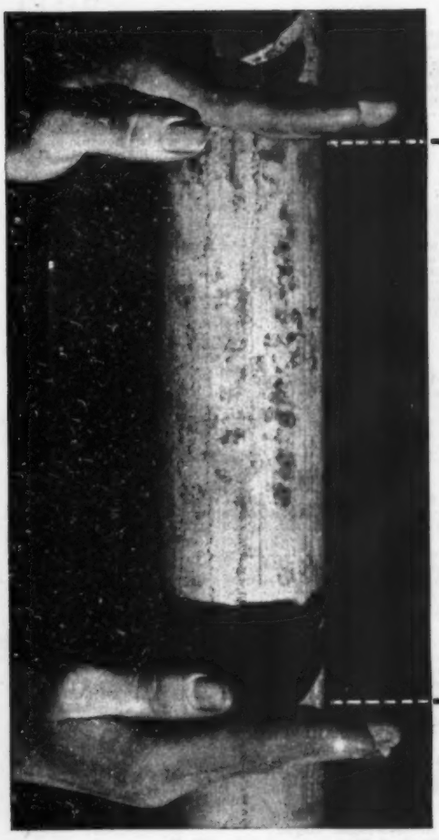
J. Morrison's No. 1 Fowler, NE SE Sec. 13-7-17 ..... Rig.

C. Kennedy's No. 1 Travis, C SW NE Sec. 15-7-14 ..... Rig.

C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.

ROGERS COUNTY

Braman Oil Co.'s No. 1 Mare, C SW SE Sec. 33-19-17 ...Spudding.



This much bare pipe wastes

750 lbs. of coal per year

J-M Insulation will save 90% of that waste . . .

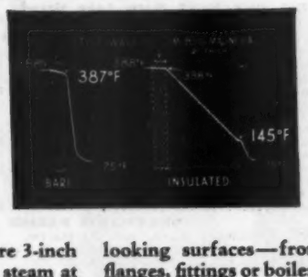


Diagram showing how insulation stops heat loss.

PER foot of length, a bare 3-inch line carrying saturated steam at 200 pounds' pressure will lose approximately 1052 B.t.u. per hour. In a year every foot of this bare pipe wastes the equivalent of 750 pounds of coal.

2 inches of Johns-Manville 85% Magnesia Insulation will save approximately 90% of it—the equivalent of 675 pounds of coal per linear foot of pipe. It costs only a fraction of the value of the fuel it saves.

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Johns-Manville
Industrial Insulation

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 23-12-24w ..... Shut down 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w.... Drlg. 3,030 ft.

SEMINOLE COUNTY

Sunray Oil Co.'s No. 1 Sunray, NW SE Sec. 35-6-5 ..... Location.

WASHITA COUNTY

Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w. Drlg. 2,020 ft.
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... Shut down 1,050 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Cimarron Utilities' No. 1 Unknown, C SE Sec. 1-3-14 .... Location.
Western Prod. Co.'s No. 1 Gable, C NE Sec. 24-4-12 .... 9,000,000 ft. gas 2,750-2,860 ft.; completed.
Three Way Oil Co.'s No. 1 Crane, SW NW Sec. 11-1-18.. Shut down 4,750 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 18-3s-10 ..... Shut down 530 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW Sec. 7-7-10. T. D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... T. D. 740 ft.; plugged back to 450-80 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE Sec. 18-4s-8w ..... Location.

LOVE COUNTY

Autrey et al's No. 2 Cross, CWL SE NE Sec. 27-6s-2 .... Show oil and gas 970-72 ft.; shut down 1,090 ft.

MARSHALL COUNTY

Taliaferro et al's No. 1 fee, NW SE SE NW Sec. 34-5s-5 ..... Shut down 580 ft.
McCrory et al's No. 1 Little, NW SW Sec. 30-7s-6 ..... Bailing 10 bbls. of oil 495-97 ft.; recemented csg.; pumped 110 bbls. 30 hrs.
D. H. Curry's No. 1 Ward, NE SE SW Sec. 15-5s-6 ..... Shut down 2,310 ft.

McCURTAIN COUNTY

The Oil Journal's No. 1 Parks, C NE NW Sec. 9-4s-23 ... Shut down 50 ft.
Stewart's No. 1 Patterson, C SE SE Sec. 7-4s-24 ..... Shut down 840 ft.

PUSHMATAHA COUNTY

George's No. 1 Lane, NW SE Sec. 32-2s-15 ..... Shut down 840 ft.
Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18 ..... Location.

STEPHENS COUNTY

Brown's No. 1 Hightower, SW SE NE Sec. 15-3s-5w .... Fishing 905 ft.

CANADIAN FIELDS

(Continued from Page 43)

stages of the application of the government restriction of wet gas flow to 40 per cent. The full application of this measure, coupled with the refusal of Imperial Oil, Ltd., to accept more than 50 per cent of normal deliveries, will materially reduce the future deliveries of the field.

Central Turner Valley

In the Central Turner Valley, McLeod Oil Co.'s No. 3, LSD 16, Section 1-20-3w5, is sidetracking old tools in the lime. The test has been fishing for some time, helped by small shots of dynamite, and has taken out some metal, and at last reports the drill was about 55 feet off the old bottom.

British Dominion Oil & Development Corp.'s No. 2, LSD 6, Section 12-20-3w5, is cleaning out in the lime, and will shortly make a definite production test.

In the North Turner Valley area, United Oils' No. 4, LSD 2, Section 24-20-3w5, is reported drilling 210 feet in the lime at 5,910 feet and logging satisfactorily with other North Turner Valley producers.

Moose Mountain Oil Show

Graystone Consolidated's No. 2 Moose Mountain, LSD 9, Section 34-23-5w5, on the Moose Mountain structure has encountered further encouraging indications of high grade crude. The test has been drilled to 4,165 feet when it was taken over from the Signal Hill Oil Co. by the Graystone Consolidated Petroleums, Ltd., merger some months ago. Since then the oil sand at 4,123 feet was given a small shot, after which the well was drilled to about 4,169 feet, when some caving occurred. It was cemented to overcome this, but apparently the cement failed to set and on resuming crude oil had risen about 7 feet in the hole, indicating that the test had drilled into the top of a second oil sand. The drill is apparently in the Fernie shale horizon, and still some distance above the lime.

Companies and individual leaseholders interested in acreage in the Moose Mountain, Elbow, Two Pine and adjacent areas are conferring with regard to the systematic testing of their holdings. The purpose is to eliminate needless duplication of tests and to provide the necessary development to protect the leases.

On the Moose Dome, it is unofficially reported that contract has been let for completion of Moose Oils' No. 1, LSD 16, Section 29-22-6w5, which has been standing at 2,835 feet. Test is to be completed with diamond drill. The test started at a geological high and after drilling through the Madison limestone with a small gas flow was able to enter the Devonian lime at 550 feet, and is still in that formation. Various shows of oil and gas have been met, including a strong wet gas flow at 2,789 feet. Oil and gas were blown to a height of 125 feet or more, but the well either froze or bridged. It is thought that deeper drilling will encounter crude oil, the product brought up with the gas being somewhat heavier than naphtha.

In the southern foothills, Alberta Pacific Consolidated's No. 2 Weymarn, LSD 5, Section 7-6-1w5, on the Pincher Creek structure, has been drilled to 3,391 feet, and is reported waiting for a shot.

Red Coulee Field

On the Montana end of the international Red Coulee structure, Askalta Oils' No. 1 Farbo, SE SE NE Section 2-37-4w, got oil showings in the top of the Vanalta sands at 2,505 feet and was drilled into the sands, making 380 bbls. a day flush production and settling to around 300 bbls. It is being put on the pump. This is stated to be the best well yet drilled in the Red Coulee Field and was carried to production in 36 days, a new drilling record for the field. Drilling was done on acreage secured by Askalta Oils, Ltd., a Canadian organization, from the Cosmos Petroleum Co. Askalta Oils' previous test, No. 1 Vollbrecht, in SE Section 11-37-4w, finished early in April as a dry hole at 2,460 feet.

Alberta Drillers' No. 1 Farbo, SE Section 3-37-4w, a mile west of the nearest production, picked up the gas in the upper Sunburst sand at 2,440 feet and is resuming drilling after cementing. Production is looked for in the Vanalta sand. If production is secured in this test, it will materially extend the proven field in Montana and indicate good prospects immediately north on the Alberta side of the line.

On the Alberta end of the Red Coulee structure, Vanalta Oils, Ltd., will do no further drilling on its acreage this year, Alberta Pacific Consolidated Oils, Ltd., the original owners of the leases, having waived this requirement.

To the northwest, Dalco Oil & Gas Co.'s No. 2, LSD 7, Section 19-2-7w4, is being plugged and abandoned after striking a heavy water flow at 3,140 feet.

Border Fields

In the Shank Lake area, Parco Oil Co.'s No. 1 Twin River, LSD 16, Section 34-1-20w4, is reported drilling at 450 feet after experiencing some trouble with boulders.

On the Lethbridge structure, Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, is at 3,311 feet and underreaming after getting a little gas at 3,245 feet. It is reported that this is the same horizon in which Hudson's Bay's No. 1 Keho at Keho Lake got its oil show.

In the Taber area, Alberta Pacific Consolidated's No. 1 Cole-Hunter, LSD 3, Section 11-10-17w4, unofficially reported

shot at 3,600 feet, is still waiting, according to last official reports. Delay was apparently due to the necessity of some further cementing.

In the Milk River area, Commonwealth Petroleums' No. 1, LSD 9, Section 9-3-15w4, is standing at 4,932 feet, pending further consideration of deepening the test with diamond drill equipment. At this depth it is a considerable distance in the lower Devonian lime.

East of Coutts, Mayland Southern's No. 1, LSD 13, Section 4-1-9w4, has resumed work and is reported drilling at 1,680 feet.

Canadian operators are interested in tests on the Montana side which are likely to help prove up adjoining Alberta areas. On Milk River, Fulton Petroleum Co.'s test is reported to have increased oil and gas shows below 2,500 feet. It is thought to be drilling in the lower Colorado with chances of commercial production at the base of that formation, several hundred feet lower.

In the Sweetgrass Hills the Howard Lange test in Section 7-36-6e has drilled into a gas flow at 1,980 feet, apparently in the basal Colorado, and is cementing casing. The test may take production, estimated 7,000,000 feet a day, at this depth, or may drill deeper. The strike extends the Bear's Den Field a considerable distance north toward the Alberta line.

Hudson's Bay Tests

In the Keho Lake area, southern Alberta, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, is drilling out cement at 4,265 feet. The test was somewhat deeper but had to be cemented back owing to caving.

In the Castor district, Hudson's Bay's No. 1 Paintearth, LSD 5, Section 27-39-15w4, is drilling in the Devonian lime at 4,605 feet.

Medicine Hat Gasser

Further details are available regarding the gas strike in No. 2 well drilled by the municipality of Medicine Hat in the new northeast extension of the field. The test was reported to have blown in with 3,500,000 feet a day estimated production. Official tests conducted by C. W. Dingman, inspector from the provincial gas and petroleum department, showed an actual flow of slightly more than 3,000,000 feet. This was more than 500,000 feet in excess of No. 1 well, which opened this section of the field a few months ago. The development follows a prospecting program started in the northeast area two years ago, on the advice of Dominion engineers, who predicted big gas production on a structure which appeared to extend for 35 miles from the Medicine Hat Field. No. 1 well was about 2½ miles northeast of the main field, and No. 2 has been carried a little further. Gas lines are being laid for No. 3 which, it is stated, will be drilled 6 miles out. The new structure is believed to connect the Medicine Hat Field with the Many Island Lake area, where gas was struck some years ago. A 10-inch pipe line will be laid to take production from the new wells.

Ribstone Field

In the Ribstone Field, east central Alberta, Algonquin-Commonwealth's No. 2, LSD 5, Section 16-45-1w4, is drilling at 1,610 feet with some gas. The test is logging a little higher than nearby producers, and should get the 1,900-foot sand within a couple of weeks. Rayco Oils' No. 1, LSD 5, Section 4-47-1w4, is standing cemented at 2,600 feet.

In the Wainwright Field, east of Edmonton, Montreal Alberta Petroleums' No. 1, LSD 2, Section 15-45-7w4, is below 2,200 feet and coring. On the Smith farm, east of Wainwright, Bethwain Oils is preparing to resume work on a test drilled to the top of the sand. Peninsular Petroleums, Ltd., of Montreal is reported preparing to resume work in the Wainwright Field. Peninsular's No. 1, LSD 16, Section 30-45-6w4, has been standing for some time at around 256 feet. The Peninsular company, shortly after starting this test, took over Wainwell Oils, Ltd., with several potential producers, and probably these will be first put into shape for production.

EASTERN FIELDS

(Continued from Page 48)

Both of these will probably go to the Clinton sand. In the pool in Wheeling Township, Guernsey County, the Kemrow Co. is drilling a third well on the J. W. Fowler farm.

In Carroll County there are four wells drilling but none of them is a test. In Louden Township, Eaton and others have their No. 8 on the Nelson E. Slates farm down to 1,100 feet, and their No. 4 on the James M. Hanna farm drilling 1,200 feet. George W. Elliott and others have reached 1,250 feet in their No. 3 on the H. G. Buchanan farm. In Center Township, the Lisbon Oil & Gas Co. and others are drilling at 1,200 feet in No. 4 on the James M. Hanna farm.

In Athens County the Standard Natural Gas Co. has spudded in and started drilling a test on the R. Young farm in Section 12, Waterloo Township. In York Township, Waley and Boughman have their test on the C. & O. Railroad Co. property, in Section 23, down to 2,850 feet on the way to the Clinton sand. In the same section the Union Drilling & Producing Co. has abandoned its rig and location for a second test on the W. H. Powell farm. In Starr Township, Hocking County, the Associated Oil & Gas Co. has abandoned its No. 1 on the A. L. Jones farm in Section 4.

WEST VIRGINIA

One small oil producer, five gas wells, and three dry holes was the sum total of a week's work in West Virginia. The oil producer was the test of H. L. Flanagan on the George Bolton farm in Grant district, Ritchie County. It was estimated good for 5 bbls. a day from the Salt sand.

In Boone County the Owens Bottle Co. completed its No. 12 on the Little Coal Land Co. tract in Washington district. It is a small gas well at a depth of 2,555 feet. In Gilmer County the McCall Drilling Co. completed its second test on the Margaret Ralston farm in DeKalb district at 1,921 feet and in the Injun sand. It will make a gas well.

In the fairly active town lot development in Calhoun County, Creed Barker and others completed a test on the Methodist Episcopal Cemetery lot and have a gas well in the Injun sand at 2,246 feet. It is rated at about 500,000 feet a day.

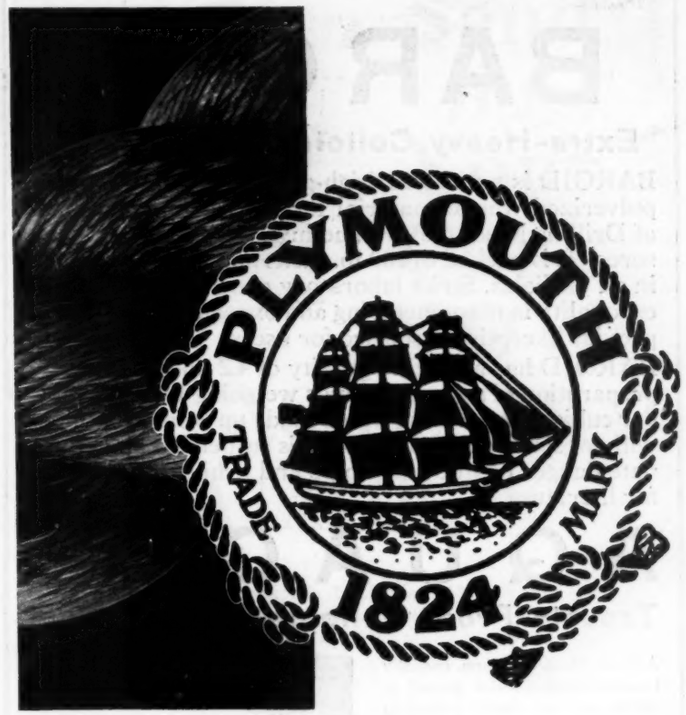
Lincoln County was good for two completions. In Jefferson district the Cambridge Gas Co. tested the George Thompson farm with a No. 1 to a depth of 2,445 feet and has a fair gas well. In Sheridan district the Martin Gas Co. drilled a test on the Sherman Johnson farm to the Big lime at a depth of 1,657 feet with a resultant small gas well.

In Harrison County the Hope Construction & Refining Co. drilled a test on the T. J. Coffman farm in Ten Mile district. It went to the fifth sand which was dry and the hole was abandoned. The United Fuel Gas Co. abandoned its test on the Henry Closter estate farm in Harvey district, Mingon County, at 3,100 feet after failing to find a paying sand.

In Reedy district, Wirt County, Walter A. Bickerstaff had a similar result in a test on the Mary E. Dick farm. This hole was drilled in the Berea sand which was found dry.

Drilling in West Virginia

There is a fair amount of drilling continuing in Lincoln County. Pridemore and Adkins have made a location for a test on the M. S. Miller and R. Topper property in Jefferson district. In the same district the Jefferson Gas Co. has part of the material on the ground for a fourth well on the Richard Miller farm. In Carrol district Louis R. Sweetland, agent, is down to 1,760 feet in a second well on the L. R. Sweetland farm, and Katherine Moore, administratrix, has reached 1,200 feet and is temporarily shut down for water in No. 8 on the B. F. Roberts farm. In Union district, the Woodyal Gas Co. is drilling its second well on the James Walker Adkins farm at 2,275 feet and the Hamlin Natural Gas Co. is at 1,515 feet in its No. 2 on the Matthias Adkins farm. In the same district the United Fuel Gas Co. is down to 1,200 feet in its No. 4,337 on the James E. Stowers farm. In Harts Creek district Frank Yates remains shut down



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at 1,810 feet in a test on his own farm.

In Mingo County most of the activity is confined to the operations of the United Fuel Gas Co. However, in Harvey district, the Ohio Southern Gas Co. has a rig standing for a test on the Cowden and Workman farm. In Warfield County the United Fuel Gas Co. has two wells drilling, its No. 4,326 on the Central Trust Co. tract at 875 feet, and its No. 4,328 which has been spudded in and drilling started. On the same property in this district, this company has built roads to three more locations and has an additional location staked. In Hardee district the same operators have their No. 4,332 on the Cotiga Development Co. tract down to 3,395 feet and it is about due to be heard from.

In Boone County there is much preparatory work but only about six wells drilling at the present time. Godfrey L. Cabot is drilling at 1,845 feet in a test on the Central Trust Co. property in Sherman district. In the same district this operator has his No. 47 on the Federal Coal Co. tract at 2,340 feet, and his No. 48 at 2,210 feet, and his No. 5 on the Mary Dickinson farm down to 2,200 feet. In the same section the Pure Oil Co. is drilling at 2,197 feet in No. 53 on the Federal Coal Co. tract. In Peytonia district the Owens Bottle Co. has shut down its No. 9 on the Safe Deposit & Trust Co. farm at 1,813 feet. In Scott district the same company has the rig and tools ready for two wells, one on the Cassingham and others' farm, No. 21, and No. 2 on the S. M. Wheeler farm. In Washington district the same company has two locations ready, one a test on the S. P. Cabell farm and the other, No. 13 on the Little Coal Land Co. tract. In Sherman district the Pure Oil Co. is busy with preparations for four additional wells, one on the Williams Coal Co. land and three more on the Federal Coal Co. tract. In addition to the drilling wells mentioned, Godfrey L. Cabot is building a road for a second well on the J. Q. Dickinson farm, has a rig set up, and another location made on the Federal Coal Co. lease.

SOUTHWEST PENNSYLVANIA

There were no completions in the southwest Pennsylvania fields during the past week, and few wells are drilling. The Harold Oil Co. is down to 1,650 feet in a third well on the J. Minich farm in Robinson Township, Allegheny County, in the center of a small pool. In Cranberry Township, Butler County, the Morrow Dunlap Co. has reached a depth of 1,460 feet in a test on the A. Johnson farm. In Greene County there are two wells drilling, but several new locations have been made for gas wells which will soon be rigging up.

OKLAHOMA FIELDS

(Continued from Page 34)

deeper into the Wilcox sand and increased the production to 67 bbls. of oil an hour. The oil was found in the Wilcox sand at 2,576-79 feet. The same company's No. 2 Roberts, NE cor. SW NE Section 32-5-5, was showing oil from the Viola lime at 2,407-12 feet, where oil rose 600 feet in the hole in 12 hours. The operators were drilling the test deeper at 2,450 feet and it will be drilled to the Wilcox sand.

In the Konawa Field in Seminole County, Magnolia Petroleum Co.'s No. 1 Billington, SW cor. SE NW Section 29-6-6, topped the regular producing sand at 2,750 feet to 2,754 feet, where a showing of oil was found. The 8-inch casing was being landed before drilling deeper.

Leasing Report

The leasing of acreage in Oklahoma appears to follow the trend of production except for some scattered blocking and checkerboarding. One of the important lease transactions during the past few weeks was a block of approximately 6,000 acres in Carter County that was purchased by the Carter Oil Co. The block consists of a number of small tracts in Townships 3s-2w and 4s-2w being located between Wheeler and Healdton and outside of production.

The major oil companies are dropping wildcat acreage in Woodward County and the Sinclair Oil & Gas Co. has turned back to the landowners an 8,000-acre block in Townships 26-18w and 27-18w. There were about 75 tracts in the block. The acreage was assembled about two years ago and the nearest test to the acreage was the Empire Oil & Refining Co.'s deep dry hole in the southeastern part of Harper County.

The different counties that have been active from a leasing standpoint include Stephens County, in Townships 3s-7w and 2-5w; Grady County, in Townships 5-6w, 5-8w and 4-8w; Jefferson County, in Townships 5s-7w; Blaine County, in Township 16-10w; Seminole County, Townships 10-7 and 7-6; Creek County, Townships 19-8 and 17-9; Pottawatomie County, Township 6-4.

Survey of Storage

A survey of the Greater Seminole area indicates that crude oil was withdrawn from storage during the past few weeks at the rate of 8,500 bbls. a day on an average, with approximately 1,500 bbls. going to storage. The amount being withdrawn has been larger during the last 10 days owing to the operators shutting in wells.

Storage gained approximately 130,000 bbls. in the same area during the month of June but the total for the month of July is expected to show a decline, since the purchasers of crude have been unable to secure their requirements the last 10 days.

In the southern part of the State the storage is believed to be about one-half empty. About 400,000 bbls. of empty storage is located in the Duncan area, with about 3,500,000 bbls. of empty storage in the Ardmore district and around 1,000,000 bbls. of empty storage in the Purcell area. Operators in the southern part of the State are shutting in their wells, while others are producing them on one-half time, and still others are producing the wells and running the crude oil to storage.

In the Oklahoma City Field approximately 2,500,000 bbls. of storage is empty and about 750,000 bbls. of lease and working storage is empty. In the Cushing district there was available around 18,000,000 bbls. of empty storage, on June 1.

Southern Oklahoma

In southern Oklahoma the field operations have been reduced and one of the active areas is located in Marshall County. McCrory & McCrory and others' No. 1 Little, NW cor. SW, Section 30-7s-6, a semiwildcat test, is being put to pumping. When last tested it made 110 bbls. of oil in 24 hours including 20 per cent water from sand at 493-98 feet. Same company's No. 1 Adams, NE cor. SW, Section 31-7s-6, made 22 bbls. of oil in 24 hours from sand at 523-26 feet. The oil from these wells will be shipped by truck to the Walter Neustadt 75-bbl. lub refinery at Kingston, about 6 miles distant.

Hearle-Hudson's No. 1 Williams, SW cor. SE NE, Section 24-7s-5, a wildcat a mile northwest of production, was shut down at 602 feet; formations are believed to be running low.

South of the Madill Field, in Marshall County, Ross-Conover's No. 1 Taliaferro, SW cor. NE NW, Section 34-5s-5, was shut down at 552 feet in blue shale with nothing showing.

In Carter County, operations in the Tatums Field were continuing at a steady rate. Cement plugs are being drilled in two of the tests and another is nearing the pay horizon. Carter Oil Co. and Cox and Hamon's No. 1 Ratliff-Spears, NW cor. SW, Section 19-1s-2w, on the east side of the Tatums Field, has cemented casing on top of the oil sand at 1,780-1,926 feet, and the operators were preparing to drill the plugs. Magnolia Petroleum Co.'s No. 5 Dickerson, NE cor. SE, Section 24-1s-3w, has cemented the casing on top of the oil sand found at 1,969-81 feet and is preparing to drill the test into the pay horizon.

Carter Oil Co.'s No. 4 W. Franklin, C NE NE NE, Section 24-1s-3w, is a rig that the owners plan to start drilling when the tools at the same company's No. 2 Ratliff-Spears can be moved. The K-D Drilling Co. and others' No. 1 M. E. Burton, C S half SW, Sec-

tion 30-1s-2w, was reported to be drilling at 2,000 feet.

In Love County, Batson, Starritt and Autry's No. 2 Autry, SE cor. NE, Section 27-6s-2, was coring a favorable looking sand at 1,320 feet. The sand is believed to be showing oil and gas. Same operators' No. 1 Cross, NE cor. NW NE, Section 27-6s-2, is a location. Both of these tests are located 7 miles northeast of Marietta.

Greater Seminole Production

The production from the Greater Seminole area for the week ending July 30 was approximately 162,513 bbls. The first 12 pools listed below comprise the Seminole area which averaged 112,683 bbls.

Pool—	Bbls.
Little River	21,525
East Little River	3,145
Carr City	13,425
Maud	2,010
Mission	6,420
Bowlegs	12,745
Earlsboro	15,138
South Earlsboro	5,455
East Earlsboro	14,875
Seminole	12,455
East Seminole	1,545
Searight	3,965
Total	112,683
Allen	11,240
Asher	635
Wanette	5,995
Konawa	8,720
Sasakwa	1,965
St. Louis-Pearson	21,275
Grand total	162,513

Oklahoma City Shipments

The total shipments from the Oklahoma City Field for the week ending August 1 were 477,550 bbls. including tank cars. The shipments declined 384,779 bbls. from the previous week. The shipments by companies were as follows:

Company—	Bbls.
Champlin	84,192
Continental	18,566
Empire	123,528
Magnolia	17,967
Oklahoma	1,905
Operators	42,660
Prairie	4,974
Shell	9,993
Sinclair	45,910
Stanolind	8,097
Tidal	None
I. T. I. O.	33,679
Capital	6,862
Century	23,152
Crude P. L.	16,024
Wilcox	30,133
Petroleum P. L.	9,695
Anderson-Prichard	188
Total	477,550

The daily production and pipe line shipments from the Oklahoma City Field for the week ending August 1 were as follows:

Date—	Prod.	Wells	Shipments
July 26	52,726	36	83,468
July 27	25,182	23	60,114
July 28	68,774	42	75,560
July 29	84,378	44	78,747
July 30	55,618	39	64,067
July 31	58,127	38	51,327
August 1	100,299	55	64,960

Haskell County

Sooner Oil & Gas Co.'s No. 1 J. Perral, C NE SE, Section 9-7-20, is dry and abandoned at 1,640 feet.

Muskogee County

Mack Drilling Co.'s No. 1 Daniels, NW cor. NE NE SE, Section 33-16-15, is spudding. C. W. Brown moved a machine in for No. 3 V. Smith, SW cor. NW NW SW, Section 14-15-15. C. C. Wachob and others' No. 1 L. Benge, SW cor. NW SW NW, Section 9-15-18, is a machine. P. Boyle and others' No. 2 C. Barnett, SW cor. NE NW, Section 35-16-15, has been completed for 4,435,200 feet of gas in sand 1,133-38 feet. G. D. Robinson's No. 2 W. Brown, CNL SE NE, Section 18-13-16, made 330,720 feet of gas in sand 1,443-53 feet.

Oklahoma County

Morgan Petroleum Co.'s No. 1 Stout-Gibbons, SE cor. SW SE, Section 34-12-3w, Oklahoma City Field, gauged 4,257 bbls. in three hours, producing from Wilcox sand topped at 6,240 feet, total depth 6,460 feet. Westgate Oil Co.'s No. 2 Carey, NE cor. SE NW SE, Section 34-12-3w, flowed 6,226 bbls. in 3¾ hours from Wilcox sand topped at 6,338 feet, total depth 6,532 feet. T. B. Slick estate's No. 3 Classen-Edwards, NE cor. SE SW, Section 3-11-3w, made 3,528 bbls. in two hours from Wilcox sand 6,325-6,481 feet, total depth 6,501 feet. No. 4 Classen-Edwards, CEL SW, Section 3-11-3w, has been completed for 3,008 bbls. in two hours from Wilcox sand 6,320-6,480 feet, total depth 6,485 feet. Indian Territory Illuminating Oil Co.'s No. 4 Ferndale Community, NE cor. NW NE, Section 11-11-3w, has been completed for 467 bbls. at 6,536 feet after plugging back from 6,580 feet; top of sand 6,505 feet. No. 6 Pasadena Heights, SW cor., Section 14-11-3w, has been completed for 452 bbls. in four hours from sand topped at 6,380 feet, total depth 6,607 feet. Scott and others' No. 1 Ashley, SW cor. NE NE NW, Section 14-11-3w, made 957 bbls. in 11½ hours in sand topped at 6,245 feet, total depth 6,501 feet, after plugging back from 6,582 feet. Indian Territory Illuminating Oil Co.'s No. 4 Lawrence Place, SW cor. NE, Section 15-11-3w, made 5,998 bbls. in 4¼ hours at total depth 6,499 feet.

Okmulgee County

D. M. Logan's No. 2 N. Pigeon, SE cor. NE NE, Section 31-15-13, has been completed for 5,000,000 feet of gas in sand 1,995-2,003 feet.

Pittsburg County

Tape Oil Co.'s No. 1 C. Fulton, SE cor., Section 34-7-14, is rigging up.

Pontotoc County

G. J. Lynch and others' No. 1 Newby, NE cor. SE NE NE, Section 24-5-4, made 30 bbls. in Simpson sand 2,536-40 feet.

Stephens County

J. C. Chambers and others' rig is up for No. 1-A M. Dare, SE cor. NW SE, Section 2-2s-8w.

Wagoner County

C. D. Bradley and others' No. 1 S. Kernal, NE cor. NW SW NE, Section 7-15-17, is drilling at 250 feet. No. 1 B. Shepard, SE cor. NE NW, Section 7-15-17, is a machine.

SOUTHWEST TEXAS FIELDS

(Continued from Page 40)

southeastern Live Oak County where the Houston Oil Co.'s No. 14 Cartwright is now down below 4,500 feet without production, whereas the No. 23, only 1,000 feet away, came in for a 100-bbl. oil well on the pump at 3,565 feet. The No. 23 Cartwright is producing from a sand in the Oligocene which is above the Jackson. The No. 14 Cartwright is said to have encountered the Oligocene low as compared with the No. 23 Cartwright.

Southwest of the field in Jim Wells County the Carsil Oil & Gas Co.'s No. 3 McGill may be given a light shot. It is bottomed in a lime formation and showed considerable gas but not as much pressure or volume as the No. 1 McGill and it was thought a shot might help it.

Miscellaneous Activity

J. E. Anderson is to drill a test in the western part of Bexar County and other interests are planning to drill some miles south of it for a test in formations below the Edwards and probably to the Pennsylvania. This latter test which is not announced yet will be an interesting test. Very few tests have been drilled along the Balcones fault zone to formations below the Edwards lime. There are some who anticipate that there will be no Pennsylvania found. In western Bexar County, however, older formations outcrop than those farther east and the Pennsylvanian is thought to be within easy reach of the drill.

In northern Duval County, Camp and others' No. 1 Hubbard at 1,835 feet is thought to have got the Cole sand of the Laredo district but a drill stem test showed it to be dry and they started drilling again but got held up with a fishing job. The test is a couple miles east of the Schoolfield-O'Byrne Pool.

L. E. Lockhart is starting a test on Survey No. 511 which is on a line with the Schoolfield-O'Byrne Pool on the north and the Kohler Pool on the south. He is now building derrick.

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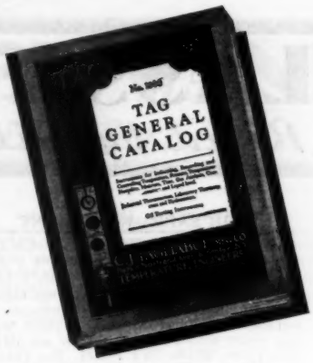
During the first quarter of 1931 Venezuela produced 31,297,000 bbls. of petroleum, compared with 35,511,000 bbls. in the corresponding period of 1930. In the current year production has amounted to 10,705,814 bbls. in March, 9,597,861 bbls. in April and 9,834,545 bbls. in May.



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Definite Upward Reaction in the East

Market Picture Changes Completely Over Night. Lub Oils Lead Way. Price Basis Stronger in Gasoline. Bullish Week

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Aug. 3.—A definite upward reaction developed in East Coast refined products markets during the past week, with lub oils leading the way with sharp price advances on all grades, and quotations for other products firming up to posted price levels. There has been a perceptible easing off in selling pressure on gasoline in the refinery market, and the price basis is likewise stronger in this branch of the trade.

With crude oil quotations on the upswing and indications pointing to additional price markups in the near future, the refined products markets have not been slow to reflect this strengthening statistical position, and the market picture has changed completely almost overnight. Refiners in this district are hesitant in voicing predictions for the nearby position, but leading interests are almost uniformly bullish on the outlook for the near term.

Market recovery has come so quickly, and prices have stiffened with such rapidity that some interests here are seriously concerned over the situation. While it has been generally felt that refined products selling prices have been too low, it has been the hope of many factors here that recovery, when it finally set in, would be a slow and steady process, rather than a complete about-face in market conditions and a quick running-up of quotations. Eastern interests now see the necessity of building market recovery on a sound footing, and it is believed that leading factors here will make every effort to consolidate market gains as they develop, rather than permit the market to "run away" and prices skyrocket which would still leave the market open to price cutting tactics on the part of many operators whose marketing tactics have previously reacted against the best interests of the market in this territory.

Refinery Gasoline

Reflecting the higher market at the Gulf and elsewhere, eastern refiners have firmed up in their views on refinery gasoline, and posted prices now represent the actual market, whereas in recent weeks sellers in some instances have gone a quarter to a half cent under minimum posted quotations on competitive business.

The lowest price posted in the New York Harbor market area is now 5¼ cents per gallon, with the top posted figure 6 cents. A number of sellers are unwilling to close spot business under 5½ cents, and market sentiment for the near future is illustrated by the fact that refiners are exteremely reluctant to book forward deliveries at current price levels.

Favorable weather conditions throughout the East last week, accompanied by a record spell of hot weather in many sections of the territory, have made for heavy gasoline consumption, and sales in the tank car market during the closing week in July were reported the largest for any single week thus far in the year.

Distributors have radically revised their views on the gasoline situation. A few weeks ago, buyers were operating almost on a day-to-day basis, and were unwilling to stock in any substantial quantities, due to prevalent price cutting and the uncertain outlook. Now, however, the situation is directly the opposite. Dealers are keeping their bulk storage full, have sufficient tank cars "rolling" to keep their stocks up to the maximum, and are willing to book August and September requirements at current price levels.

East Coast refiners increased their gasoline stocks somewhat during the past week, it is reported, stepping up refinery operations to make as much cheap crude into products as possible before starting to run the higher price crudes which are now coming into refineries in this area.

Tank Wagon Gasoline

While there have been no general revisions in posted prices for tank wagon and service station gasoline during the week, the market is working into firmer position and some of the soft spots in various parts of the territory are disappearing as the stronger refinery market forces price markups on the part of some independent dealers who have been consistently shading posted prices during the past few months.

The official posted price at service stations in the metropolitan territory is 15.3 cents per gallon, including tax, but principal brands are being retailed at 7 gallons for $1 at many stations in the territory, and in some instances at 8 gallons for $1.

So-called third grades of gasoline are being retailed at 9 gallons for $1 or under, including state tax, although the market for this quality motor fuel is expected to firm up in sympathy with the stronger tank car situation.

Stimulated by favorable weather conditions, gasoline consumption in East Coast territory has soared during the past week, and current gallonage on the part of many marketers is running at record high levels.

Consummation of the Socony-Vacuum merger has aroused considerable interest in marketing circles here, and early steps for the integration of the gasoline marketing operations of the two companies are looked for with the creation of a national marketing system believed in the offing. The combined Socony-Vacuum outlets already give the new organization gasoline distributing facilities over a large part of the country, and it is believed that this marketing organization will now be rounded out to include the entire United States.

Kerosene

The refinery situation has shown little change, and the posted price for 41-43 water white in tank car lots is unchanged at 4¾ cents per gallon. An indication of better things in store for the kerosene market, however, is seen in the fact that most sellers are now firm at the posted price, whereas up to a week ago the listed quotation could be shaded by a quarter or a half cent.

Tank wagon kerosene demand was along routine lines during the week, with quotations remaining unchanged.

Lubs

A runaway market has developed in cylinder oil, and refiners have advanced their quotations substantially, the increases ranging from 2 to 5½ cents per gallon, as to grade. Present asking prices for the various grades are as follows: 600 steam refined, 17½ to 18 cents per gallon; 635 steam refined, 19 to 20 cents; 650 steam refined, 20 to 21 cents; 600 Pennsylvania flash, 22 to 23 cents; 630 Pennsylvania flash, 27¾ to 28 cents; 600 Warren "E," 22 to 23 cents; 600 Oil City "E," 21 to 22 cents; bright stocks, light, 30 to 33 cents; dark, 29 to 31 cents.

Considerable business in cylinder oils was closed during the week, not at the top prices, however, and buyers are now marking time pending some stabilization of the market. At present, asking prices of refiners show a variance of from 1 to 3 cents per gallon, and compounders and other buyers are inclined to hold off until the market settles.

Refiners are talking higher prices for cylinder oils, and it is believed another upward movement in crude oil prices will bring about still higher price levels for lubs.

There were no changes in prices for red or pale oils during the week. Business continued along routine lines, industrial consumption being rather light at this season, although it is expected the fall recovery in consumption will set in earlier this year than is normally the case.

Fuel Oil

A stronger undertone has developed in the bunker oil market, in line with the higher prices for crude oil, and refiners in the East are now looking for an early turn for the better. The present posted price for Bunker "C" oil, 80 cents per barrel in bulk at refinery terminals, is the lowest in the history of the industry, and is based on recent low crude oil prices.

Demand for bunker oil has continued rather quiet throughout the week, although industrial consumers, sensing a turn for the better in the price basis, have been more inclined to pick up low-priced oil on the spot position.

Diesel Oil

Refiners continue to hold the market at $1.50 per barrel, bulk, f.o.b. refinery terminals. Contract withdrawals are characterized as satisfactory, and a fair volume of spot business is reported.

The placing of new Diesel-burning equipment in operation, it is reported, has virtually offset the reduced consumption incidental to a slowing down in marine operations thus far in 1931, and aggregate gallonage of Diesel oil thus far compares very favorably with that for the corresponding period last year.

Gas Oil

The posted price for 28 plus recycled gas oil holds at 4 cents per gallon in tank car lots, f.o.b. refinery terminals, and a fair business was reported during the week.

As a result of the stronger crude oil market, there has been a marked falling off in offerings of distressed gas oil, and refiners here report that the posted figure is being generally adhered to in current transactions. Some interests, in addition, are inclined to look for a higher market in the near future, but nothing definite has developed in that direction.

Paraffin Wax

Reflecting the stronger market for lub oil and other products, refiners have advanced their quotations for wax, and the spot market has reacted upwards in sympathy.

Current quotations, which show an increase of one-eighth cent per pound for the week, follow: 120-122 a.m.p., 3 cents per pound; 125-127 a.m.p., 3⅛ cents; 130-132 a.m.p., 3⅝ cents; 133-135 a.m.p., 4⅛ cents; 135-137 a.m.p., 4⅝ cents.

Domestic consumers have been in the market for stocks in sizable quantities during the week, but the higher market has had a tendency to slow down export buying for the time being.

Export Market

The Gulf export market is definitely higher, with further increases talked of, and trading has quieted down considerably. Three cargo inquiries from France developed, but it appears probable that this business will be placed in Rumania, as a result of the higher Gulf market. Two of the cargoes are for the account of a French affiliate of a leading American integrated unit. Present nominal asking prices at the Gulf follow: Navy, 3½ cents; 60-62, 3½ to 3⅝ cents; 61-63, 3½ to 3⅝ cents; 64-66, 3¾ to 4 cents per gallon. Kerosene for export continues posted at 3½ cents at the Gulf.

Notwithstanding the strengthening of the East Texas crude oil market, French buyers have not closed any additional business during the week and it is expected that buyers will continue to hold off until the immediate market outlook clarifies. French buyers had been endeavoring to buy East Texas crude for delivery over a term of months at fixed prices, and sellers in most instances have been unwilling to contract on this basis, insisting instead that future prices be fixed at a flat differential from posted quotations.

Petroleum Exports

Expected increase in export movement of refined petroleum products through the local port failed to develop this week, and operators in many instances are now inclined to look for a slow market until the firmer price basis on refined products is thoroughly tested out and established.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	July 25	July 18	July 11
Gasoline	.....	350,000	360,000
Naphtha	20,000	3,675,000	10,000
Kerosene	5,000	350,000	.....
Fuel oil	150,000	275,000	110,000
Lubricating oil	1,360,000	975,000	935,000
Petroleum, refined	40,000	1,295,000	10,000
	Pounds		
Petrolatum	80,000	.....	9,000
Paraffin wax	1,275,000	1,450,000	635,000
Refined	.....	.....	50,000
Scale	240,000	135,000	85,000
Lub. grease	640,000	750,000	400,000

The virtual complete about-face which the market position has undergone during the past few weeks has naturally resulted in considerable confusion in export markets. Foreign buyers who had been under the impression that the American export market would continue a "buyers' market" for the remainder of 1931 have been forced to radically readjust their viewpoint and foreign buyers, in many instances, are unwilling to concede the soundness of the present market position here until present prices for both crude and products have been "proved up." Pending further developments along this line, considerable foreign inquiry has been withdrawn from the export market locally.

Imports

Imports of crude and refined petroleums at the principal United States ports for the week ended July 25 totaled 1,558,000 bbls., an average of 222,571 bbls. daily, as compared with 1,740,000 bbls., or 248,571 bbls. daily during the previous week and a daily average of 238,857 bbls. for the four weeks ended July 25. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
Baltimore	346,000
Boston	133,000
New York	623,000
Philadelphia	160,000
Others	214,000
Total	1,476,000
Daily average	210,857
At Gulf Coast ports—	
Galveston district	82,000
Total	82,000
Daily average	11,714
At Atlantic and Gulf Coast ports—	
Total	1,558,000
Daily average	222,571
Daily average four weeks	238,857

Distribution of total imports is as follows:

Crude	599,000
Gasoline	612,000
Fuel oil	347,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports during the week ended July

(Continued on Page 88)

Chicago Has Record Contract Volume

Spot Market Shows Comparatively Light Activity in Spite of Continued Heavy Consumption of Gasoline and Lubs

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Aug. 3.—Sellers at the close of last week were reporting the largest volume of contract business in their experience in the district in the gasoline and lubricating oil markets, and in consequence the spot markets showed a comparatively light activity in spite of the continued heavy consumption of these products. A significant feature of the gasoline markets is the fact that practically all of the refiners are refusing to quote a flat price on material to be delivered over a period exceeding 10 days. One of the largest tank car sellers of fuel oils and gas oils has extended this cautious policy to these products, setting the limit for flat price quotations to a period not exceeding two weeks.

While the aggregate of withdrawals by buyers on their commitments represents a large movement of gasoline, the individual orders are comparatively small and there is no indication that the jobbers are ready to concede that the time is ripe for profitable anticipation of rising markets, although they have witnessed a steady price increase since early in July. The unwillingness of the jobbers to stock up on gasoline for the next 30 or 60 days reflects an uneasiness as to what may happen in the crude oil situation. One of the smaller refiner buyers explains his ultraconservatism thus:

"Right now we're fighting to keep on our feet while the gasoline markets are moving upward, and our mistake was not that we sold short, but that we bought from a refiner at 2 cents for delivery over July and August. This refiner closed down and at our own plant we were met with a sudden crude oil shortage because of the producers' strike, so that we have had to supplement our gasoline production by heavy buying at a disadvantage to fill the requirements of our customers. This turn of affairs will not ruin us, but it will certainly be a biting memory the next time we are approached with a proposition which may remotely suggest the same ending."

Refiners Contributing to Improvement

Instead of stepping up operations at their refineries to take care of all their requirements, as it has been feared would be the case if tank car markets improved, the major refiners, some of whom have more than a year's supply of crude oil on hand, are continuing to purchase gasoline for prompt delivery in 100 and 200-car lots. Naturally, there has been some increase in crude runs to stills, but the movement of material in the district has been sufficient to eliminate the gasoline which until recently was responsible for constant price shading.

Eastern Field Relieves Chicago District

In oil circles here it is said that the large movement of refined products from Texas and the Gulf region into this territory which marked the earlier part of the season has been largely deflected to the eastern markets. According to the evidence available the price cuttings factors which sent the price of U. S. Motor gasoline to 2 cents basis Group 3, a little more than a month ago, and made possible the purchase of this material at 1.72 cents by a favored buyer from a major refiner, are well taken care of, and the low of the ruling prices is now generally held to represent the real bottom.

None of the refiners who withdrew from the spot markets when prices crumbled under the pressure of overproduction, appears to be willing to resume this activity. These refiners continue to place their open market prices a quarter of a cent to half a cent above the high of the ruling quotations.

Refiners Not Anxious to Sell

One refiner says that a jobber wanted to buy 10 cars of U. S. Motor gasoline from him Friday at 2⅞ cents, and when refused avowed that he could pick up the material at that price nearly any place. The refiner, the account goes, expressed his delight and confided to the jobber that he really did not want to sell even at 3 cents, and the reported result was that the jobber bought at 3 cents. The next day the low was 3⅛ cents.

Unusually Good Supply Situation

While the spot market movement of 437 endpoint gasoline of 58-60 and 60-62 gravities, and the 60-62, 400 endpoint material was overshadowed by the volume going on contracts, this business was considerable in view of the tightened supply situation and the nervousness felt in regard to somewhat chaotic conditions in the crude oil production end appears to be yielding to the immediate facts of gasoline supply and demand so that the upward pressure which has been exerted on these markets grows, rather than lessens, in strength.

While a number of refiners are reported to be suffering from the sudden diminishment of their crude oil supply due to developments in the various fields outside of East Texas, the forces which are seeking to build back the crude oil price structure appear to be discounted as major factors in the bullish gasoline, natural gasoline and naphtha markets, because of a lack of confidence that any overt measures which may be taken to raise the price of crude will remain effective under fire of opponents. In other words, the activity in the refined products markets is a function of their more or less ready availability and their consumption, factors which depend upon the refiners' judgment and the appeal to the motorist.

There is a feeling among oil men in Chicago that the proper thing to do is to "take things as they come" and not speculate, because "anything is liable to happen" in the present state of affairs. The chief executive of one of the major interests responded to questioning on the crude oil problem in Oklahoma thus:

This company "fixes its prices for crude oil without reference to state lines, on the basis of supply and demand and the status of competitive prices, and also on basis of what it receives in the way of prices for the derivatives of crude oil that it sells to the public." "In principle," this officer said, the company "stands for prices that will enable producers to make a fair profit.

"By the same token, it believes that those who purchase, refine and market petroleum products also are entitled to a fair measure of profit for their effort. It will gladly see a return of a sound price structure for the oil industry, but believes that the return must come through economic development in all the areas involved and by degrees gradual enough to permit adjustment to take place as to all the multitudinous factors affecting the situation."

The executive of another major company urges the cessation of drilling, rather than the shutting down of flush producing areas, as the way to bring about a price recovery. In Chicago oil circles the position of those men who have supported unitization plans as a means of curing overproduction has gained overwhelming strength.

When it is said that refiners do not propose to speculate it means simply that the time for quoting flat prices or making the price spread guarantees prevalent in the earlier part of the season is definitely passed and it will be up to the buyers to take a larger share of the risks that have proved the undoing of more than one refiner. Fortunately for some refiners their contracts provided for cancellation in strongly adverse eventualities. Others, not so fortunate, must look forward to many months of anxiety. These number the refiners who were so desirous of adding new outlets that they offered guarantees of 5.5 cents and 6 cents (in one case 6.25 cents) spread under the service station price to jobbers. The Red Crown service station price in Chicago is 14 cents. Deducting the 3-cent tax, the 2.38 cents a gallon freight charge for Group 3, inspection fee of .03 cent per gallon, or a total of 5.41 cents (Illinois) from 14 cents leaves 8.59 cents from which the guarantee is subtracted. A guarantee of a 5.5-cent spread under the 14-cent price leaves the refiner 3.09 cents; a 6-cent guarantee leaves him 2.59 cents, and the refiner who promised 6.25 cents is now receiving 2.34 cents a gallon before subtracting other costs involved.

Hard Times for Trackage Stations

Developments of the past week indicate that some of the largest operators of cut-price service stations do not have the security of price guarantees which refiners in the past have offered to minimize the effects on the buyer of drastic price war cuts. As has been stated several times in these columns the situation in Chicago has its most serious aspect in the matter of bargaining for new outlets on the part of the refiners, so that the disadvantage is mainly with the refiner here. However, the guarantees that went with the regular grades of gasoline were not extended to the third grade material and this is the gasoline that is causing practically all of the trouble to the trackage station operators.

The third grade gasoline is now admitted to have made heavy inroads into the regular gallonage of the major interests, but what is more serious from the standpoint of the price cutter is that the majors have steadily regained the gallonage they had lost to the trackage stations and have with their third grade forced the price war down to levels where every gallon sold represents the loss of 1 cent or thereabouts. It seems that some of the largest independents have reached the breaking point and there is no indication on the part of the majors that a let up can be expected until it is definitely understood in every quarter that the weapon of price cutting in the hands of trackage station operators is a treacherous tool. In one of the points in the territory where the price war has been hottest it is understood that the leading price cutter is anxious to call it quits with the majors who have turned upon him and cut prices at which he was selling at a three-quarters cent loss a gallon in his aggressive move against the majors.

Tank Car Prices

U. S. Motor gasoline, 58-60, 437 endpoint, reflected the strong position that closely held production and large demand have given. The price situation among the service stations in which motor fuel in this classification is retailing at from 3 cents to 6 cents below the price of the regular grade has brought out heavy draughts of this material so that no considerable quantities are readily available on the open market. Much of the spot market buying up to the close of business Saturday was by jobbers who have been used to purchasing at a figure well below the low of the ruling prices, and it was very noticeable that sales at 2⅞ cents had been reduced to practically nil, with most of the inquiries settled on a low of 3 cents. On Saturday sellers in nearly every case placed their rock bottom price at 3⅛ cents, and enough material was moving at 3⅜ cents to constitute a high of the price range. Refiners who were not ready to re-enter the spot markets hurriedly moved their quotations up to 3½ cents and as much as 4 cents on U. S. Motor.

A popular gasoline in the district is a 60-62 gravity, 437 endpoint material, and this was quoted at from 3⅛ cents to 3⅜ cents with the largest movement in the upper part of the price range. The 60-62, 400 endpoint gasoline has been heavily drawn on by at least two major refiners, 200 cars being sought for delivery this week by one of these. The price range has widened slightly to a 3¼ cents low and a 3½ cents high. The 64-66, 375 endpoint gasoline has moved up to 3⅜ cents to 3⅝ cents, and the 68-70, 360 endpoint material remained steadfast at 3½ cents to 3¾ cents.

Natural Gasoline

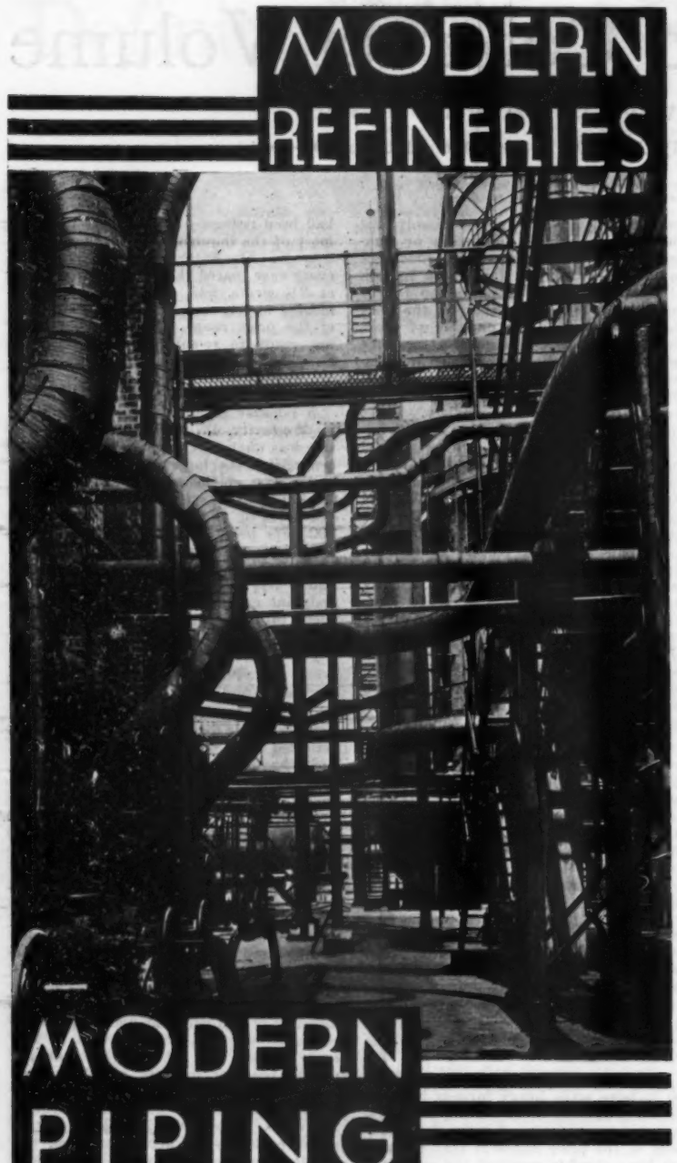
The product which has profited most from the movement to shut in crude oil producers has been natural gasoline, as reflected in the strong position this material has assumed in the markets of this district. The service station price situation has also had a hand in bringing natural gasoline out of retirement to which it sank on the collapse of the U. S. Motor gasoline markets. One of the largest sellers of natural gasoline reported a corresponding burst of activity in blending naphthas and this is likewise attested by better prices. In the matter of the new specifications the trade is definitely favorable and it is understood that new contract forms are in preparation in various quarters. The largest movement last week was in the Grade A, 72-79.9 material of 375 endpoint and 90 per cent recovery, selling at from 2⅝ cents to 2¾ cents; Grade AA, 80-87.9, 375 endpoint and 90 per cent recovery, was 2⅝ cents to 2½ cents, and Grade BB, 84-92, 375 endpoint and 85 per cent recovery, was 2¼ cents. The trade is looking for an advance this week, depending upon the developments in the crude oil situation. The 50-52, 450 endpoint naphtha was 2¾ cents to 3 cents.

Kerosene

The kerosene markets appear to be firming up gradually, apparently in sympathy with the gasoline markets, and there has been no evidence of increasing demand. The price range Saturday was narrowed down to 2 cents to 2⅛ cents for the 41-43 water white kerosene, and 2⅛ cents to 2¼ cents for the 42-44 water white material. A prime white kerosene showed an eighth of a cent improvement on a 1⅝ cents quotation.

Fuel Oils and Gas Oils

As buyers are beginning to make cold test distinctions on more rigid lines a better structure is taking form in the fuel and gas oil markets. The low priced low gravity material which has burdened the markets is losing out as a price factor. One major refiner is asking 25 cents a barrel on a 16-20 gravity zero fuel oil of under 300 viscosity. This is the same price as this company's 18-22 zero material. Ruling prices at the close of business Saturday on the 18-22 fuel oil were from 17½ cents to 25 cents, depending upon the cold test. The 22-26 fuel oil was 25 cents to 30 cents a barrel, and the 28-30 zero fuel oil had moved up slightly from the lower level to 37½ cents to 40 cents. The 32-36 gravity industrial gas oil is proving a puzzle with the price range narrowed down to five-eighths cent to seven-eighths cent, a slump of an eighth of a cent from last week's high.



Modern motors mean modern motor fuel, and to meet these new and exacting demands means new and larger and more modern refineries. Which in turn brings one to the subject of MODERN PIPING SERVICE, and the ability of Power Piping Company to serve the interests of the most prominent refineries throughout the country. Experience, personnel, engineering help of the finest caliber, responsibility and integrity—in short, "put it up to POWER PIPING".

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The zero gas oil of this gravity responded in the opposite direction with the high moving up an eighth of a cent making the range 1 cent to 1¼ cents. The 38-40 straw distillate also shows improvement, the new prices being 1⅛ cents to 1⅜ cents. According to certain sellers of gas oils the product produced in the areas of most refining activity are not looked upon favorably as material for enriching artificial gas, but it is evident that the more favored gas oils are not finding enthusiastic markets.

Lubricating Oils

With mounting crude oil prices in Pennsylvania and with the undeniable popularity of "pure Pennsylvania" lubricating oils in this district, steam refined material and bright stocks of that State are bringing startling prices. One Mid-Continent refiner admitted that 7 out of 10 motorists asked the filling station attendant if he could supply them with "pure Pennsylvania" lubricating oil. Steam refined prices were for the 600, 9 cents to 9½ cents, and for the 650, 11½ cents. The bright stocks were 21½ cents to 22 cents for the below 35 cold test, and 20½ cents to 21½ cents for above 35 cold test material.

It was expected that the increasing cost of Pennsylvania material and the lowered output in the Mid-Continent coupled with good demand would help the Mid-Continent refiner in these markets. However, it is reported that one of the major refiners operating on the Gulf Coast is exerting a bearish influence in the neutrals and bright stocks markets. Prices quoted in Chicago on Mid-Continent lubs, f.o.b. Tulsa, Saturday were on zero to 5° cold test material and ranged half a cent higher throughout the list of Oklahoma quotations on 23-28 cold test material. Cylinder stocks were also half a cent higher.

UPWARD REACTION IN EAST COAST MARKET

(Continued from Page 86)

25 totaled 97,000 bbls., a daily average of 13,857 bbls., compared with 313,000 bbls., a daily average of 44,714 bbls. during the previous week and a daily average of 47,357 bbls. for the four weeks ended July 25. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast ports—	
New York	97,000
Total	97,000
Daily average	13,857
At Gulf Coast ports—	
All ports	None
At Atlantic and Gulf Coast ports—	
Total	97,000
Daily average	13,857
Daily average four weeks	47,357

Distribution of total California oil receipts follows:

Gasoline	97,000

Charter Market

Inquiries for both clean and dirty tanker tonnage were infrequent during the past week and there continued a surplus of vessels for the limited business available.

A little interest was reported in small tonnage for shipment from California to Japan and other parts of the Far East, and some business was believed pending on clean tonnage, transatlantic.

Coastwise markets were a little more active, but little interest was shown in tonnage for intercoastal movement.

Fixtures reported during the week were as follows:

Steamer Gulf (Am.), clean, Gulf to North of Hatteras, 17 cents, prompt loading.

Motorship Orkanger (Nor.), 4,814 net, California to Australia, 18s., spot loading.

Steamer Beaconstreet (Br.), 4,514 net, crude, Aruba to Teneriffe, 6s. 6d., two voyages, August-September loading.

NO OIL SALE BY HUNT

The published report that the Atlantic Oil Producing Co. had bought 1,000,000 bbls. of oil from H. L. Hunt, Inc., of Tyler, Tex., is said by Mr. Hunt to be erroneous. He reports that no sale has taken place.

KANSAS FIELDS

(Continued from Page 35)

22-23-11, has been abandoned at 1,924 feet.

McPherson County

Noble, Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 2 Zerger, NE cor. SE, Section 16-21-3w, has been completed for 887 bbls. in sand 3,057-63 feet. Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 4 Flook, NW cor., Section 1-20-2w, has been completed for 2,093 bbls. in 12 hours from chat 2,924-58 feet. Lario Oil Co. and Shell Petroleum Corp.'s No. 1 Miller "B," NE cor. SE NW, Section 6-20-1w, has been completed for a potential of 2,150 bbls. in Viola lime 3,418-28 feet. McPherson Oil & Gas Development Co. and Shell Petroleum Corp.'s No. 2 Hill, C SW NE, Section 10-19-2w, gauged 2,500,000 feet of gas in chat 2,922-43 feet. Wolf Creek Oil Co. and Sinclair Oil & Gas Co.'s No. 1 Dunsford, SE cor. SW, Section 23-19-2w, has been completed for 3,500,000 feet of gas in chat 2,914-50 feet. Lario Oil Co. and Shell Petroleum Corp.'s No. 2 Wiggers, NW cor. NE, Section 36-19-2w, topped Viola lime at 3,383 feet drilled to 3,398 feet and was completed for a potential of 1,988 bbls. Magnolia Petroleum Co.'s No. 1 Klassen, NW cor. NE NW, Section 21-19-1w, had chat from 2,912 feet to total depth 2,955 feet and made 24,500,000 feet of gas. Abilene Oil Co. and Shell Petroleum Corp.'s No. 2 Garrett, NE cor., Section 30-19-1w, made a potential of 1,506 bbls. in Viola lime 3,424-31 feet. No. 1 Anderson, NE cor. NW, Section 30-19-1w, has been completed for a potential of 666 bbls. in Viola lime 3,412-26 feet. No. 2 Anderson, NE cor. NW NW, Section 30-19-1w, made a potential of 1,933 bbls. in Viola lime 3,409-19 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Whitwright, SW cor., Section 30-19-1w, had Viola lime 3,399-3,408 feet and tested 1,248 bbls. for potential.

Rice County

Yarnell and Shell Petroleum Corp. moved a machine in for No. 1 Guldner, C NW SE, Section 22-18-9w.

Sedgwick County

Continental Oil Co. has the rig up for No. 1 Black, SW cor. SE NW, Section 16-25-1e, to deepen from 3,012 feet. Derby Oil Co.'s No. 6 Eastborough, SE cor. NW NE, Section 19-27-2, pumped 344 bbls. in 12 hours from sand 3,285-88 feet.

LA.-ARK. FIELDS

(Continued from Page 42)

ber Co. in Section 3-1n-3w, Rapides Parish. The company has assembled a block of 90,000 acres surrounding the test, 30,000 acres having been obtained from the Long Bell Lumber Co., 41,000 acres from the B. E. Smith Lumber Co. and 4,000 acres from Irving & Bishop. The location is in the southern part of Rapides Parish, about 35 miles southwest of Alexandria. The nearest producing fields are Urania in LaSalle Parish to the northeast and the Vinton Field near Lake Charles, southwest. Although the contract calls for a 2,500-foot test, it is announced by the operators that at least a 3,600-foot test will be made.

SEARCHING FOR BROTHER

Mrs. R. O. Boldt, Box 708, Phoenix, Ariz., is anxious to locate her brother, Leslie Wright, 45 years of age, an oil field worker, who specializes in nitroglycerin work. It has been reported to Mr. Wright's mother that he was killed in an oil field accident either in Texas or Oklahoma, and the family is extremely anxious to learn if this is true.

RUSSIAN BLACK SEA EXPORTS

Exports of Russian petroleum products through Black Sea ports during May showed a marked decline from the April record, and over 70 per cent of the shipments consisted of fuel oil and gasoline. The principal products were 815,414 bbls. of gasoline, 488,596 bbls. of kerosene, 1,091,791 bbls. of fuel oil, and 175,385 bbls. of lubricating oils. Italy, England, Germany and Belgium were the largest purchasers.

ROCKY MOUNTAIN AREA

(Continued from Page 43)

a rotary from the Seminole Field to start on its No. 1 Johnson-Juhl, C SE SE, Section 14-6n-61, to comply with the lease requirement which provides for the spudding in of the second well by August 1. It had been planned to move the rotary tools over to the new location when the Ida Johnson well was completed, but the delay caused by the failure of the cementing job made this impractical. The owner of the lease was asked to give a 15 days' extension, but he is said to have insisted upon $200 a day for each day's delay after August 1 and President Paul Ache met the situation by at once ordering another rig shipped in.

The Continental Oil Co.'s No. 1 Frank Briggs, C SE SW, Section 13-6n-61, and No. 1 Gadbois, C SE SW, Section 24-6n-61, are both rigging up. This company has filed an application with the State Public Utilities Commission for a permit to build a pipe line from Greasewood to Denver. It is not likely, however, that the line will be constructed until after one or both wells are completed. It is probable that the company would not have undertaken these operations if a deal could have been made for the purchase of production from the Reiter-Foster wells, but it is understood that the Reiter-Foster company, which has first call on the oil from the six sections of land under its contract with the Platte Valley Petroleum Co., has other plans. If the Ida Johnson well comes in as a producer, it is expected that negotiations which have been pending with one of the large refining and marketing units for the construction of a refinery will be concluded. President Ache is quoted as saying that the plans and specifications, with cost sheets, have been prepared for the construction of such units as may be required. Elaborate plans also have been made through a subsidiary, the Eastern Colorado Gas Co., for marketing the gas should the Ida Johnson well come in as a gasser.

Morgan County

The Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, has been making good progress since changing over to rotary at 4,090 feet and was drilling at 4,435 feet on July 27. Two new boilers have been set up to furnish additional power required by the rotary rig.

The Badger Creek Oil & Gas Co.'s No. 1 Kent, SW cor., Section 2-2n-57, Badger Creek Dome, which recently resumed drilling under a contract with J. T. Juhan, is making hole at 880 feet with cable tools.

Arapahoe County

The MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, near Aurora, has run the 4¾-inch to 7 feet off bottom at a total depth of 5,835 feet and is cleaning out. Charles A. Caruso, treasurer of the Fitzsimmons Oil & Leasing Co., which is drilling this well, died the past week at St. Luke's hospital in Denver following a heart attack. He was president of the drilling company and had been active head of the organization for several years.

Adams County

Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, Watkins district, was reported drilling at 3,730 feet, having made only a few feet of new hole the past week.

Larimer County

The Raddatz Corp.'s No. 1 State, SW cor. NW, Section 16-4n-69, Berthoud Dome, is drilling at 1,600 feet in blue shale. The Travis-Raddatz interests have valuable holdings in the south Florence Pool where they have been successful in developing substantial production. R. B. Hollandsworth, who has been in charge of their drilling operations for some time, is superintending the work on the Berthoud Dome.

Lincoln County

The Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW, Section 36-14s-57, Hugo district, is bottomed at 3,385 feet and fishing for bailer.

Park County

The South Park Oil Co.'s No. 1 Milligan, NE SE, Section 13-8s-76, Jefferson district, is drilling at 2,155 feet in gray sand, identified by the driller as the Muddy, and is carrying the 6⅝-inch at 2,147 feet.

Rio Blanco County

The Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, Piceance Creek, is drilling below 698 feet. The California Co.'s No. 1 California-Raven, NW SE, Section 30-2n-102, Rangely Dome, is drilling at 1,394 feet in the Mancos shale. The 20-inch was cemented at 488 feet and an 18¾-inch fishtail bit is being used below that depth. This type of bit is being used in order to insure a straight hole. This is to be a deep test to the Pennsylvanian formation. After setting a 28-inch conductor pipe, a 27-inch fishtail bit was used until the 20-inch was landed. A Deisel engine is being used to generate electric power and the rig has a 138-foot derrick. The Dakota is expected between 2,950 and 3,000 feet. Some of the former tests drilled on this structure had heavy gas pressure in that horizon.

Archuleta County

The Standard Oil Co. of Colorado's No. 1 Fitzhugh, NW SE SW, Section 34-33n-1e, Chromo Dome, is fishing at 502 feet, and its No. 1 Brooks, NW cor. NE, Section 2-32-2e, Price Dome, is spudding at 60 feet.

WYOMING

The Midwest Refining Co. expects to have completed and ready for operation in about 30 days its new unit of Cross cracking stills at its Greybull refinery. The capacity of the unit will be 2,500 bbls. daily. It is being constructed primarily to handle more heavy oil from the Frannie Field and probably from the Hamilton and Byron Domes. While this unit will give some relief for black oil production that is now mostly shut in, it will be comparatively only a drop in the bucket as to the quantity available in the Big Horn Basin.

A recent compilation on the possibilities of eight proven structures for black oil on the western side of the basin shows an estimated recoverable oil content of 739,080,920 bbls. The structures included are the Oregon Basin Field, the deep pay in Grass Creek, Hamilton Dome, South and North Sunshine structures, the Fourbear and Spring Creek Domes and the Frannie Field. Four of these structures have only one well each to the pay and one has only three wells completed. Altogether, there are 69 wells with an estimated daily capacity of 21,615 bbls. The list does not include the Garland Dome, in which 600 feet of saturated formation was found in the discovery well, and several others. It would take but a very short time to develop a production of 50,000 bbls. daily if there was a market for it. The Oregon Basin Field is producing 1,300 bbls. daily with most of the wells shut in. The other pools are all shut in except for one well in the Frannie Field. Some black oil is being refined in The Texas Company's refinery at Cody and in Montana plants, but these, with the new Midwest unit, can take care of only a small part of the production available.

Big Horn County

Completion of the Portland Association, Inc.'s No. 1, SE NE SE, Section 29-56-97, Garland Dome, has been delayed by a fishing job at 4,250 feet. The drill stem is in the hole. This well, which is being drilled to the Madison lime, is only a short distance north of the Ohio Oil Co.'s No. 1 Eaton, the discovery well in that horizon, which on a short test indicated a capacity of at least 5,000 bbls. daily. The Portland Association's well topped the pay at 3,893 feet and gives indications of measuring up to No. 1 Easton.

The Utah Southern Oil Co.'s No. 3 Government, NE cor. SW, Section 29-56-97, a mile to the northwest of No. 1 Easton and a Madison lime test, is bottomed at 4,100 feet and is showing for an oil well, according to company report. It is preparing to test. A 3-inch liner was set at 3,887 feet and it made 15,000,000 feet of gas from the top of the lime. The core from 3,924 feet to bottom showed oil saturation. It may be drilled deeper as it is not yet as far into the lime as the other two wells.

The Ohio Oil Co.'s No. 1 Smith, NE SE SE, Section 33-56-97, showed for 1,500,000 feet of gas at 1,976 feet and is being tested. A 1,707-28 feet it gauged 20,000,000 feet of gas in 24 hours from the Frontier.

Washakie County

The Ohio Oil Co.'s No. 1 Strothers, SW SE NW, Section 19-45-92, Neiber Dome, is drilling at 6,930 feet. The horizon is not identified, but it is down to the depth at which the first Frontier was expected. The 9⅝-inch was cemented at 6,144 feet. It will be carried to 7,500 to 8,000 feet if necessary.

Park County

The Midwest Refining Co.'s No. 24 Rosenberg, NE SE NE, Section 26-58-98, Frannie Dome, is drilling at 1,668 feet in gray shale.

The Resolute Oil Co.'s No. 1, NE SW NE, Section 17-57-101, Badger Basin, is reported bottomed at 8,725 feet and to be through the first and second Frontier sands. It flows by heads each 18 hours, making around 35 bbls. per head, and about 2,000,000 feet of gas per day.

Natrona County

The Midwest Refining Co.'s No. 11 Middy, C NE NE, Section 23-35-79, Midway Dome, after plugging back to the Muddy sand at 5,983 feet, has been troubled with the hole caving and no test of production has yet been made. While drilling out a bridge just above the sand, the gas broke through and blew the tools up the hole. A hold was secured and the tools were lifted 25 feet. Fishing is in progress at 5,806 feet.

Laramie County

The Prairie Oil & Gas Co.'s No. 1 Warren, SE NE SE, Section 22-13-68, southwest of Laramie, is drilling at 586 feet in a coal mixture.

Carbon County

The Midwest Refining Co.'s No. 27 Union Pacific, NW SE SE, Section 11-20-81, Elk Mountain, is bottomed at 3,140 feet and redrilling 5 feet off bottom. The Prairie Oil & Gas Co.'s No. 1, SE cor. SW, Section 29-27-89, deep rotary test, is digging mud sumps and building rig. Noble Drilling Co. has the contract.

The Producers & Refiners Corp.'s No. 1, SW cor., Section 19-20-83, Overland Dome, is drilling at 1,283 feet.

Fremont County

The Producers & Refiners Corp.'s No. 2, NW SE NW, Section 33-34-92, Muskrat Dome, is bottomed at 6,081 feet and is preparing to cement back. A test taken at 6,000 feet with a Halliburton tester showed some gas saturation and slight oil colors. Below the gas sands in the Frontier it is reported to have had a salt water sand and two barren sands. The water sand at 5,573 feet was supposed to have been the Muddy.

The Kinney-Coastal Oil Co.'s No. 1 Chatteron-Weeks, C SW NE, Section 22-3n-1w, Pilot Butte, is rigging up combination standard and rotary. It is half a mile to the northeast of the company's No. 1 Dykeman, a big gas well in the Muddy.

Sweetwater County

The Mountain Fuel Supply Co.'s No. 1 Tucker, C NW SE, Section 18-13-99, Alkali Creek, is standing with the 6⅝-inch cemented at 3,613 feet. It is believed to be on top of a gas sand.

Uinta County

Oscar Clawson and others are reported to have moved a machine on location in Section 29-14n-118, Spring Valley, on a lease from the General Petroleum Corp. of Utah.

Sheridan County

The R. & D. Oil Co.'s No. 1 Mock, NW cor. SE, Section 21-57-87, 11 miles south of the Montana line, is drilling below 600 feet after cementing the 10-inch to shut off water.

Converse County

The Continental Oil Co.'s No. 50 Whiteside,, NW SW SW, Section 9-33-76, which is being deepened to the Lakota from the Frontier at 3,207 feet, is standing with the 6¼-inch cemented at 4,370 feet on top of the Lakota. The core showed oil and gas saturation. It is on the same section as a well deepened to the Lakota a few months ago by the Ohio Oil Co. which made 350 bbls. daily.

Otto Olston and others are reported to have spudded in on a test on the Carey ranch in approximately Section 1-32-74.

Niobrara County

The Interstate Oil & Refining Co., jointly with the Fall River Royalty & Producers Co., both of which are subsidiaries of the Globe Petroleum Co., have started a deep test on Section 2-39-61, West Mule Creek. It spudded on July 19 in a 20-inch hole, with standard rig with the Mississippi lime as the objective. These interests have 11 shallow producers on the west dome and operate a small skimming plant. Last year the Argo Oil Co. made a deep test of East Mule Creek in its No. 7 Wehopeso, C SW NW, Section 19-39-60, which made 300 bbls. the first 24 hours from a sand at 3,167-70 feet, either in the Basal Minnelusa (Pennsylvanian) or upper Mississippian. East Mule Creek, which produces from the Lakota, has 300 feet of closure, while West Mule Creek, where the new test is being started, has 750 feet of closure and is 600 feet lower. The shallow wells produce from the Muddy, Dakota and Lakota. There is a syncline between the two domes.

The Continental Oil Co.'s No. 3 Rohlff, SE SW SW, Section 32-36-65, Lance Creek, which was deepened to the Lakota to increase gas production, was completed at a total depth of 3,230 feet and made 15,000,000 feet open flow initial. Top of Lakota was at 3,181 feet.

The Indian Petroleum Co.'s No. 1, NE NW NE, Section 7-35-65, which is being deepened to the Sundance at 4,200 feet, is drilling at 4,036 feet.

Weston County

There were no completions reported in the Osage Field and one new operation was started in the Wytex Oil Co.'s No. 7 Logan McCullough, NW SW NE, Section 23-46-64, an offset to its No. 6 Logan McCullough, which started off at 150 bbls. a day after a shot. The Riggs Oil Co.'s No. 1, SE cor. NE, Section 16-46-64, is drilling at 200 feet, and Hugh Updike's No. 2, CNL SE NW, Section 23-46-64, set the 6⅝-inch on top of the sand at 1,851 feet. Bradley-Manewal's No. 10, SE NW, Section 20-46-63, is drilling at 300 feet. Julius Peters and others' No. 1 Witzell, SE cor. NW, Section 30-46-64, Fiddler Creek, is reconditioning old hole at 1,800 feet.

Pipe Line Runs

Average daily pipe line runs in week ending August 1:

WYOMING

Salt Creek	20,480
Big Muddy	1,860
Byron	10
Dallas-Derby	410
Dutton Creek	80
Elk Basin	700
Ferris	40
Frannie	50
Grass Creek	1,960
Hudson	280
LaBarge	1,060
Lance Creek	320
Lost Soldier	4,110
Lovell	....
Oregon Basin	1,360
Osage	1,060
Rock River	1,910
Poison Spider	180
Simpson Ridge	....
South Casper	700
Teapot	20
Warm Springs	70
Total Wyoming	36,660

MONTANA

Buckley-Border	630
Cat Creek	990
Dry Creek	390
Kevin-Sunburst	4,470
Lake Basin	70
Pondera	1,480
Total Montana	8,030

COLORADO

Florence	340
Fort Collins	980
Iles	1,170
Moffat	880
Orchard	350
Rangely	20
Tow Creek	320
Walden	120
Total Colorado	4,180

NEW MEXICO

Rattlesnake	900
Hogback	500
Table Mesa	75
Artesia	660
Cap Rock	612
Getty	....
Hobbs	37,043
Jal	1,204
Lea City	2,532
Eunice	487
Total New Mexico	44,003
Total Rocky Mountain area	92,873
Total previous week	96,973
Difference	3,100

NORTH AND WEST TEXAS

(Continued from Page 26)

dry and abandoned, total depth 5,016 feet.

Hutchinson County

Liner and others' No. 1 Johnson, location abandoned.

NORTH TEXAS PRODUCTION
Week Ending August 1

Panhandle district—	Bbls.
Carson County	5,267
Gray County	37,398
Hutchinson County	9,784
Moore County	1,694
Potter County	0
Wheeler County	205
Total production this week	54,348
Total production last week	55,742
Decrease	1,394
Wichita Falls district—	
Archer County	12,015
Baylor County	398
Clay County	562
Cooke County	1,089
Foard County	70
Haskell County	36
Jack County	2,113
Montague County	3,946
Throckmorton County	425
Wichita County	17,904
Wilbarger County	12,417
Young County	11,280
Total production this week	62,245
Total production last week	62,081
Increase	164
Ranger district—	
Brown County	3,448
Callahan County	1,841
Coleman County	2,090
Comanche County	812
Palo Pinto County	458
Eastland County	3,653
Shackelford County	2,093
Stephens County	4,252
Total production this week	17,647
Total production last week	16,800
Increase	847

DRY ICE MAY STIMULATE DRILLING BY INDUSTRY

(Continued from Page 15)

erty. Water ice depends upon convection currents for its cooling power. It must cool the air circulating through the refrigerator, and this air in turn must cool the material to be preserved. Not so with dry ice. The carbon dioxide as it passes into a gaseous state is the inherently cool heat-absorption agent. The gas is the direct cooling medium. The CO_2 passes in a steady current over the foodstuff and outward to the refrigerator walls, driving out internal heat and keeping out external heat. Carbon dioxide ice forms a positive, moving, expanding cooling agent of itself, a constant insulator against heat. Because of this last property it is 15 times as efficient as water ice.

Paradoxically, this fact held back the development of dry ice as a commercial product, and for a long time the ice was considered only a laboratory toy; for, when carbon dioxide ice is measured by its ability to cool by convection, its power of heat absorption scores less than half as great as water ice. Theoretical science could not see beyond its own nose of hypothetical dogma and held back a discovery that will make a name for itself commercially. A practical study showed that this seeming disadvantage of dry ice was the keystone upon which its success over water ice rested.

Carbon dioxide ice is snow colored. It has a temperature of –109° F. (–78.5° C.). The ice is so cold that if handled barehanded it will "burn" the flesh as painfully as extreme heat. Such "frostbite" burns are treated in the same manner as heat burns.

The artificial manufacture of carbon dioxide has been the only supply for the commodity. Recovery of CO_2 from coke stills, beverage vats, chimneys, lime kilns, blast furnaces, and chemical factories as by-products has been the origin of commercial carbon dioxide. Until the advent of dry ice in 1923 most of this gas was consumed by the soft drink industry in the carbonization of beverages. A little of the supply was used by baking soda manufacturers and confectioners while some was used for fumigants and fire extinguishers.

The carbon dioxide when used for beverage purposes is converted to carbonic acid and is shipped in steel containers under terrific pressure. The containers for the acid afforded a problem, for they weighed three times as much as the product itself. However, plants established at strategic shipping points are said to have solved this problem. In the natural production of CO_2 it has been pointed out that the gas may be piped from the wells to the points of sale concentration and there be turned into carbonic acid, and, thus afford a great saving over artificial manufacture of CO_2.

The carbon dioxide business has been on a steady increase. In 1929 there were 49 plants throughout the country for the manufacture of carbonic acid. The gross output was 57,235 short tons, at a value of $6,673,349. Yet, the market is barely scratched. The manufacture of dry ice began in 1923, and several products are on the market under various trade names. But up to the present the Fulton interests' product is the only dry ice produced from natural carbon dioxide, and it is produced at a great saving over artificial dry ice.

The San Rafael swell, on which the Fulton interests' Farnham Dome properties are located, ideally illustrates the geological structure peculiar to CO_2 producing areas. For many years gas has been coming up through a fault line on the northwestern flank of the swell, about 30 miles southeast of Price. Paralelling the western flank of the swell a series of igneous dikes cut through the formation for many miles. The heat from this volcanic matter burned through the carboniferous limestone and fried out carbonic gas. This gas uniting with oxygen was changed to carbon dioxide gas.

The CO_2 then was caught by nature in the structural highs and submitted to tremendous pressure, so that when the bit releases it from its prison, the gas expands, cooling part of its volume into the carbon dioxide snow, which is readily pressed into ice. The artificial compression of CO_2 into snow can be done only at an overwhelming cost. Producing carbon dioxide ice by oil well methods promises to be a lucrative industry.

The Fulton Petroleum Co. is developing another structure, Garmesa Dome, in western Colorado. The company's No. 1 Smith, Section 8-8s-102w, is completed in the top of the Dakota at 2,857 feet for 30,000,000 feet of gas. The gas shows a 50-50 content of carbon dioxide and natural gas. The natural gas will be used for fuel in converting the carbon dioxide to ice and will also be piped to Grand Junction and Fruita, Colo., for domestic and industrial consumption.

Value of Gas Not Realized

The Carbon Dioxice & Chemical Co. is developing the Wagon Mound structure in New Mexico. Its No. 1 well, Section 14-19n-21e, is drilling below 1,000 feet. Several years ago carbon dioxide was discovered here while drilling for oil, but the value of the gas was not realized, and the wells were abandoned.

The gas also has been discovered in Harley Dome, 13 miles north of Westwater, Utah, and at Carbonera Dome, just across the state line in Colorado. Here, as in the Garmesa structure, the gas is a 50-50 mixture of CO_2 and natural gas, but the great difference in specific gravity makes separation of the gases easy.

The Continental's "ice cream well," No. 1 Sherman, Section 12-9n-79w, North McCallum Dome, Jackson County, Colorado, is being allowed to blow in order to put the well in condition for the manufacture of carbon dioxide ice. The Dry Ice Corp. of America has almost completed its experimental plant there, and expects to truck the dry ice to Denver within a few weeks.

Two potential carbon dioxide fields are located on the Last Chance and Willow Springs structures in Emery County, Utah. They are a part of the western side of the San Rafael swell. Their geology corresponds with that of the Farnham Dome and Woodside structures. The igneous dikes that protrude up through the anticline are like those that cut the Tampico structures in Mexico and indicate that these fields should produce more CO_2 than the Jackson County properties.

Many Hazards Present

It is with difficulty and danger that carbon dioxide wells are brought in. When the bit strikes the gas zone, it bites into freezing cold that crystallizes the tools. They become as brittle as an icicle and break almost as easily. Wiring is apt to be fouled from the extreme cold and the tools are likely to be lost. The bit is apt to crack to pieces when it touches the floor of the derrick or the wall of the hole. It is extremely hard to set casing in the freezing zone. Yet, notwithstanding these difficulties the wells can be successfully completed.

In the drilling in of the Continental's "ice cream well" one man was killed, another lost his arm by amputation, and several were severely frost bitten from the fouling of the tools by the extreme cold.

After the discovery of carbon dioxide gas in Utah, interested persons called on the Secretary of the Interior to learn his policy toward the discovery of carbon dioxide properties while drilling for oil and gas. Secretary Wilbur ruled that if there were commercial possibilities in the gas the permitees were entitled to the profits accruing. He stated further that since the commercial use of natural carbon dioxide was still in the experimental stage, the Department of the Interior would accept a nominal price of 2 cents per 1,000 feet of the gas for the first two years of operation. Following the laboratory stage the price is to be adjusted according to the market valuation of the carbon dioxide.

Because of the igneous character of carbon dioxide structures, these structures are peculiar to mountainous regions. Only six actual fields have been proven for CO_2, and only two potential fields have been located.

The year 1931 is the critical one for the production of natural carbon dioxide ice, and from all indications the new industry is passing through the experimental period better than was expected. The industry gives promise of bringing in a wide and intense era of drilling for a product which will find a fresh and ready market.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 26)

Parton Holt and Shell Pet. Corp.'s No. 1 Morse, 330 ft. S and E, Sec. 6, Blk. 26, H.&G.N. Sur. ... Rig.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. ... S.D. 2,770 ft; P.B. 2,430 ft. and shot with 80 qts. 2,409-30 ft.; C.O.
Magnolia Pet. Co.'s No. 1 Heaston, NE cor. S½ NE. Sec. 164, Blk. 3, I.&G.N. Sur. ... Rig on ground.
Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ... S.D. 2,619 ft.
Pulse-Shell Pet. Corp.'s No. 1 Simpson, SE NE, Sec. 140, Blk. 3, I.&G.N. Sur. ... Drlg. 2,752 ft.
Steckoll & Reiger's No. 1 Davidson, 660 ft. N and W, Sec. 64, Blk. B-2, H.&G.N. Sur. ... T.D. 3,250 ft; C.O.
Steckoll & Reiger's No. 1 Short, 330 ft. S and W, Sec. 17, B. E. Chaney Sur. ... C.O. 3,031 ft.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ... Rig; elevation 2,686 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 2, Blk. 1, B.S.&F. Sur. ... Location.

HUTCHINSON COUNTY

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 31, Blk. 44, H.&T.C. Sur. ... S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ... S.D. 3,016 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ... S.D. 3,115 ft.
Stanolind O. & G. Co.'s No. 2-B Pitcher, 990 ft. S, 330 ft. E, W½ SW, Sec. 19, Blk. M-21, T.C.R.R. Sur. ... Pulling big pipe 2,436 ft.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ... T.D. 5,003 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ... Small S.O. 1,133-40 ft.; S.D. 4,167 ft.

MOORE COUNTY

Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ... Location.
Magnolia Pet. Co.'s No. 1 Jones, 330 ft. N, 330 ft. E, Sec. 170, Blk. 3-T, T.&N.O. Sur. ... Drlg. 2,935 ft; S.G. 2,815 ft. and 2,845 ft.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ... Rig on ground.
Sunray Oil Co.'s No. 1 Rupert, 660 ft. N, 330 ft. E, NW, Sec. 191, Blk. 3-T, T.&N.O. Sur. ... Cellar.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-33 Thompson, C N½ NE, Sec. 33, Blk. 44, H.&T.C. Sur. ... Location.
Texas Interstate P. L. Co.'s No. 1-33 Sneed, C SW, Sec. 33, Blk. 6-T, T.&N.O. Sur. ... T.D. 2,655 ft; I.P. 16,250,000 ft. gas.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ... Location.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ... S.D.400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ... Drlg. 925 ft.

POTTER COUNTY

Red River Gas Co.'s No. 6-A Bivins, 1,344 ft. S, 1,089 ft. W, SE, Sec. 37, Blk. M-20, G.&M. Sur. ... Bldg. rotary rig.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ... Fishing 350 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-3, H.&G.N. Sur. ... S.D. 2,650 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 3, Blk. A-9, H.&G.N. Sur. ... S.O. 1,960 ft; S.D. 2,005 ft.

CALIFORNIA OIL REFERENDUM

LOS ANGELES, Calif., Aug. 1.—Sufficient signatures have been filed to secure a place on the ballot for the referendum on the Sharkey oil bill, Secretary of State Jordan announced. A total of 71,916 names, obtained in Fresno, Kings and Los Angeles Counties, are on the referendum petitions, 2,700 more than necessary.

H. U. BARTLETT IS DEAD

H. U. Bartlett, 68 years old, died at his home in Sapulpa August 1 after a short illness. He was a pioneer Oklahoman and a leader in the development of Creek County oil fields. He leaves his wife and six sons.

Announcing

WROUGHT IRON SHEETS

"the kind that Highland makes"

● A steadily growing volume of inquiries for Wrought Iron Sheets of Highland quality led this company some months ago to make test rollings and to submit the products to large users of sheets.

● This new Highland development was received enthusiastically. Frankly, we discovered that the field of uses for fine Wrought Iron Sheets was much broader than we first realized.

● As a result, we have prepared ourselves to supply Wrought Iron Sheets—"the kind that Highland makes"—in standard sizes and gauges.

● Highland Iron's unconquerable resistance to rain, snow, salt air, smoke and fumes gives Highland Iron Sheets a special value where corrosion causes heavy losses.

● Write for facts regarding the super-endurance of these sheets. Let us show you why Highland Wrought Iron will eliminate a large percentage of your sheet expense.

●

Saving Money from the Start in Refinery Construction

Corrosion causes heavy metal losses to refineries. Tank work, smoke stacks, roofing and siding are all subject to severe depreciation. Highland Wrought Iron Sheets can measurably reduce these losses. Investigation of Highland Wrought Iron resistance to all forms of corrosion indicate the tremendous possibilities of Highland Wrought Iron Sheets in this field. Data will be cheerfully supplied on request.

●

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ACCO

HIGHLAND WROUGHT IRON

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 26)

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location.

H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur. ..... Shut down 3,275 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... Show gas 795 ft.; shut down 1,300 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 200, Blk. 1, B.B.&C. Sur. ..... Location.

GAINES COUNTY

Texas Consolidated Oil Co. et al's No. 1 Jones, 2,310 ft. from NE Sec. 4, Blk. A-8, P.S.L. Sur. ..... Total depth 4,650 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 4, H.&G.N. Sur. ..... Spudded and shut down.

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,680 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Total depth 3,202 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur... Spudded and shut down.

HUDSPETH COUNTY

Henshaw's No. 1 Love, C NE Sec. 9, Blk. 67½, P.S.L. Sur. ..... Shut down 690 ft.

Patillo & Welch's No. 1 Briggs, 300 ft. from S and W Sec. 13, Blk. 73, Twp. 7, T.&P. Sur. ..... Shut down 690 ft.

Theison's No. 1 University, 3,050 ft. from S and 2,225 ft. from E of Sec. 17, Blk. E ..... Spudded 35 ft. and shut down.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W Sec. 3,081, Blk. 28, H.&T.C. Sur. ..... Total depth 2,152 ft.; underreaming 10-inch casing.

Denny & Andrews' No. 1-A Tankersley, 200 ft. from S and 2,000 ft. from E of Sec. 709, J. P. Imhoff Sur.... Shut down 160 ft.

Ellis et al's No. 1 Nutt, 1,350 ft. from N and 450 ft. from E of Sec. 694, Kheikenheim Sur. ..... Fishing 1,220 ft.

Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. ..... 300 ft. oil in hole from 4,155-63 ft.; recemented casing; total depth 5,950 ft.

Fox's No. 1 Horney, 1,520 ft. from N and 1,525 ft. from W Sec. 2, Blk. 3, H.&T.C. Sur. ..... Shut down 1,503 ft.

Straughn & Texannati Oil Co.'s No. 1 Tankersley, 150 ft. from S and 750 ft. from W of Sec. 4, Gonzales County School Land ..... Plugged back to 1,333 ft.; total depth 1,506 ft.

Straughn & Adkins Bros.' No. 1 Lee, 1,080 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur. ..... Drlg. 370 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... Shut down 1,005 ft.

LOVING COUNTY

Adams et al's No. 1 Wichmann, 330 ft. from NE and 2,310 ft. from SE of Sec. 84, Blk. 1, W.&N.W. Sur. ... Correction of depth; total depth 4,111 ft.

Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 58, T.&P. Sur. ..... Shut down 810 ft.

Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 3, W.&N.W. Sur. ..... Shut down 400 ft.

Eppenauer et al's No. 1 Johnson, 330 ft. from NW and SW of Sec. 86, Blk. 1, W.&N.W. Sur. ..... Drlg. 2,260 ft.

Faibre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 23, H.&T.C. Sur. ..... Shut down 2,455 ft.

Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W Sec. 6, Blk. 56, Twp. 1, T.&P. Sur... Location.

Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,385 ft.

Martin et al's No. 2 Ramsey, 990 ft. from SE and 2,310 ft. from SW Sec. 83, Blk. 1, W.&N.W. Sur. ..... Total depth 4,018; cem. 6⅝-in. casing at 4,018 ft.

Slagel Drlg. Co.'s No. 1 Cartwright et al, 2,310 ft. from S and 990 ft. from W Sec. 1, Blk. 57, Twp. 1, T.&P. Sur. ..... Total depth 3,182 ft.; top pay 3,175-80 ft.; swabbing 25 bbls. per day.

Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Shut down 1,400 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... Shut down 2,860 ft.

PECOS COUNTY

Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Moving in material (standard).

Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur. ..... Seepage test.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W Sec. 58, Cassel's Sur. ..... Spudded and shut down.

Humble Oil & Ref. Co.'s No. 1 Boimorhea Livestock Co., 1,320 ft. from N and 1,320 ft. from W Sec. 33, Blk. 5, H.&G.N. Sur. ..... Top salt 2,915 ft.; drlg. 3,763 ft.

James & Milton's No. 1 Patterson ..... Drlg. 1,502 ft.

Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur. .. Shut down 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... Shut down 2,335 ft.

SCHLESCHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Shut down 2,965 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,262 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Top pay 4,000 ft.; shut down 4,042 ft. (s.l.m.).

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... Shut down 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Shut down 5,100 ft.

Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 63, Blk. 3, E.&G.N. Sur. ..... Spudded and shut down.

Seifert & Dibbie's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... Shut down 3,500 ft.

Simon & Brock et al's No. 1 Cruse, 2,310 ft. from S and E Sec. 119, Blk. 97, H.&T.C. Sur. ..... Show oil 1,798, 1,820, 1,850 ft.; shut down 2,500 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M.-K.-T. Sur. ..... Shut down 2,669 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.

Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur... Shut down 6,120 ft.

Jones et al's No. 1 Pankenham, C SE NW Sec. 42, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 2,410 ft.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 2,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... Shut down 760 ft.; show oil and gas 725 ft.

Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur..... Shut down 1,994 ft.

Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... Shut down 200 ft.

UPTON COUNTY

Mintex Oil Co.'s No. 1 Lane, 2,310 ft. from N and 1,650 ft. from W Sec. 36, Blk. 1, M.-K.-T. Sur. ..... Drlg. 2,305 ft.; swabbed hole dry for 60 bbls. oil and hole filled up 1,000 ft. in 7 hours.

Rankin et al's No. 1 Cordova Union Land, 660 ft .from N and E Sec. 6, G.C.&S.F. Sur., 1¼ miles S of Rankin ..... Shut down 2,005 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 5,420 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Shut down 6,780 ft.

WARD COUNTY

Bradford et al's No. 1 Carson, 990 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur. ..... Shut down 2,195 ft.

Bradford & Abell's No. 2 Boogher, 1,160 ft. from NW and 800 ft. from SW Sec. 11, Blk. 5, H.&T.C. Sur. .... 300 ft. oil in hole; shut down 2,216 ft.

Bradford's No. 1 York, 330 ft. from NE and SE of Sec. 10, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,220 ft.

Beckley et al's No. 1 Johnson, 4,140 ft. from NE and 990 ft. from SE Sec. 8, Blk. 32, H.&T.C. Sur. ..... Fishing 2,285 ft.; show gas here.

Boogher's No. 1 fee, 235 ft. from SE and 3,553 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Location.

Buster Black's No. 1 Hall & Roberts, 990 ft. from NE and 1,650 ft. from NW Sec. 17, Blk. 32, H.&T.C. Sur.. Shut down 1,800 ft.

Central Oil & Gas Co.'s No. 1 Barrow, 330 ft. from NW and 1,353 ft. from SW Sec. 55, J. W. Jackson Sur. ..... Drlg. 1,515 ft.

H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW Sec. 12, Blk. 5, H.&T.C. Sur. ..... Location.

Gulf Prod. Co.'s No. 8 Hutchins, 2,310 ft. from S and 990 ft. from W of Sec. 3, Blk. F, G.M.M.B.&A. Sur.... Top pay 2,552-60 ft.; drlg. 2,701 ft.; flowed 90 bbls. oil in 5 hours.

Hankinson et al's No. 1 Emery, 3,090 ft. from SE and 510 ft. from SW Sec. 26, Blk. 5, H.&T.C. Sur. ..... Shut down 2,238 ft.

Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 280 ft.

O'Quinn et al's No. 1 Cummins, 4,300 ft. from NE and 330 ft. from SE of Sec. 11, Blk. 5, H.&T.C. Sur..... Top salt 800 ft.; gauged 120 bbls. oil in 24 hours; top pay 2,150 ft.; shut down 2,217 ft. to run 2-inch tubing.

R. F. Owens' No. 1 Lee, 1,344 ft. from NW and 4,533 ft. from SW Sec. 1, J. Howe Sur. ..... Rigging up standard tools.

Pat Moran's No. 1 Sweatt, 1,470 ft. from SW and 150 ft. from NW Sec. 12, Blk. 5, H.&T.C. Sur. ..... Top pay 2,169 ft.; total depth 2,225 ft.; to run tubing; flowing 70 b. ls. oil daily.

Peck & Fuglar's No. 1 Merritt, 3,063 ft. from NE and 1,698 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 656 ft.

Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... Top salt 940 ft.; drlg. 3,462 ft.

Rexford et al's No. 2 Johnson, 2,300 ft. from SE and 4,450 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Machine.

Shipley et al's No. 5 Hayzlett, 2,490 ft. from SE and 1,980 ft. from SW Sec. 17, Blk. 5, H.&T.C. Sur. ..... Shut down 2,520 ft.; 1,500 ft. oil in hole; waiting on tubing.

Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Shut down 4,545 ft.

Sturm & Simms Oil Co.'s No. 1 Jones, 2,310 ft. from NE and 330 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur..... Drlg. 265 ft.

White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... Shut down 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ..... Shut down 4,640 ft.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 25)

FREESTONE COUNTY

Raley and Clark's No. 1 McLancaster (Pampier), 150 ft. from E of W line and center of N and S line B. Avant Sur. ..... Derrick.

E. L. Smith's No. 1 Emily Jackson, center of N 150 acres of 300-ac. Emily Jackson tract ..... Cored sand and shale 3,630-53 ft.; preparing to make drill stem test.

GREGG COUNTY

Abernathy et al's No. 1 L. A. Rodden, 680 ft. from N and 320 ft. from E lines of Martha Dillard Sur... Drlg. 2,548 ft.

Alma Petroleum Co.'s No. 1 J. W. L. Younse, 450 ft. from N and 200 ft. from W 86-ac. tract in William Goodman Sur. ..... Location.

Atlantic Prod. Co.'s No. 1 J. J. Fuller, 394 ft. from E and 343 ft. from S of 50-ac. tract and lease, Mowery Irwin Sur. ..... Derrick.

Armstrong and Pitts' No. 1 Walker, 940 ft. from N and 1,970 ft. from E of survey, Martha Dillard Sur. ..... Derrick.

P. P. Ash et al's No. 1 A. H. Tubbs, 1,550 ft. from S and 4,120 ft. from E of survey, Dolores Sanches Sur. ..... Derrick.

Becker et al's No. 1 J. C. Barrett, 330 ft. from S and W lines of N 100 acres of 320-ac. tract in G. W. Hooper Sur. ..... T. D. 3,629-47 ft.; in sand.

Barnsdall Oil Co.'s No. 1 G. E. Adams, 1,150 ft. from S and 3,720 ft. from W of G. W. Hooper Sur. .... Derrick.

Bob et al's No. 1 T. L. Broy, 200 ft. from E and 1,640 ft. from S of H. A. Holdt Sur. ..... Derrick.

M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Derrick.

Branson et al's No. 1 J. J. Fuller, 1,050 ft. from N and 170 ft. from W of survey, M. Alexander Sur. .... Derrick.

B. L. Brooklin's No. 1 J. M. Tuttle, 150 ft. from N and 205 ft. from E of 12½-ac. lease, William H. Castleberry Sur. ..... Shut down 2,800 ft.

Callahan et al's No. 2 Mollie Fenn, 450 ft. from S and 150 ft. from W lines of 44-ac. tract in D. Ferguson Sur. ..... Derrick.

Columbia Oil & Gas Co.'s No. 1-A Harley, 650 ft. E and 300 ft. S of SE cor. of Laura Walker 45-ac. tract, William Robinson Sur. ..... Derrick.

Continental Oil Co.'s No. 1 J. J. Fiewellen, 359 ft. from N and 949 ft. from E of 200-ac. lease, Marshall Mann Sur. ..... Location.

Cox and Hammond's No. 1 L. A. Rodden, 1,319 ft. from N and 602 ft. E of SE cor. of 105-ac. tract in John R. Crosby Sur. ..... Derrick.

Davis and Russell's No. 1 M. E. Anderson, 150 ft. from E and 75 ft. from S of 3-ac. lease in Kilgore Townsite, Mary Van Winkle Sur. ..... Shut down 3,558 ft.

Charles Davidson et al's No. 1 Paul Jones, 7,000 ft. from most southerly N line and 3,600 ft. from W, W. P. Chisum Sur. ..... Shut down 3,666 ft.
Duffey-Davis and McGrede's No. 1, 1,310 ft. from N and 3,160 ft. from E of survey, Martha Dillard Sur. ..... Rig up and shut down.
Eastland Oil & Gas Co.'s No. 1 B. B. Sparks, 150 ft. from N and 150 ft. from W of E 50 acres of 100-ac. tract, Harvey R. Kirk Sur. ..... Drlg. 2,855 ft.
Fain & McGaha's No. 1 D. S. Ritchie, 300 ft. from N and 400 ft. from E lines of 52-ac. tract in Carl Rhode Sur. ..... Derrick.
Dr. J. C. Falvey et al's No. 1 fee, 150 ft. from S and 150 ft. from W of 58-ac. tract, Marshall Mann Sur. ..... Rig up.
Golding and Murchison's No. 1 Sallie Smith, 300 ft. out of NW cor. of lease in the Mary Scott Sur. .... Location.
Greer's No. 1 L. M. Colburn, 150 ft. from E and 150 ft. from S of 45-ac. lease, 5,700 ft. from E and 850 ft. from N of survey, Henry Hathaway Sur. ..... Rig up.
Harper Petroleum Corp.'s No. 1 Woodley Jones, 2,000 ft. from N line and 3,900 ft. from E line of William H. Castleberry Sur. ..... Derrick.
Galves Petroleum Corp.'s No. 1 M. T. Cole, 1,000 ft. E and 2,100 ft. N of NE cor. of Samuel Brooks Sur. in the J. M. Meador Sur. ..... Moving in rig.
Howard and Russell's No. 1 Stone, 150 ft. from N and 150 ft. from E of 100-ac. tract, Bailey Anderson Sur. ..... Derrick.
Humble Oil & Refining Co.'s No. 1 H. M. Lawrence, 540 ft. from N and 219 ft. from W of 100-ac. tract, David Ferguson Sur. ..... Moving in material.
Humble Oil & Refining Co.'s No. 1 J. H. Sheppard, NE cor. of 215-ac. tract in I. Allen Sur. ..... Derrick.
K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. ..... Rig up.
Kiltner and Easterling's No. 1 Missie Young, 230 ft. S and 250 ft. E of SW cor. of the H. Edwards Sur. in the C. Rhodes Sur. ..... Derrick.
Kimsey-Trimble's No. 1 Griffith Davis, 922 ft. E of N line of Griffith Davis 119.5-ac. tract from NW cor. of same and 145 ft. at right angles, W. P. Chisum Sur. ..... Shut down 3,630 ft.
Leonard Petroleum Co.'s No. 1 Register, 300 ft. from N line and 325 ft. from E line of 100-ac. lease, G. F. Penn Sur. ..... Shut down 1,300 ft.
Charles Love et al's No. 1 J. B. Doby, 150 ft. from E and 150 ft. from S of S 6 acres of W 42 acres of 170-ac. tract, W. H. Castleberry Sur. ..... Derrick.
J. K. Livingston Oil Co.'s No. 1 D. C. Johnson, 200 ft. from N and 150 ft. from E of survey, Martha Dillard Sur. ..... Top Pecan Gap 2,480 ft.; shut down 2,810 ft.
Magnolia Petroleum Co.'s No. 1 L. A. Griffin, 5,225 ft. from W and 4,550 ft. from N of survey, Mary Van Winkle Sur. ..... Coring 3,557 ft.
Ross et al's No. 1, located on Findley & Thomas 50-ac. tract, 150 ft. from S line of 6.66-ac. lease, C. H. Alexander Sur. ..... Derrick.
Scheig et al's No. 1 Rube Smith, 1,100 ft. N and 300 ft. from W of tract and survey, Slaughter Sur. .... Derrick.
Selby Oil & Gas Co.'s No. 1 L. C. Ingram, 200 ft. from W line of lease in the William Pastour Sur. ..... Top Pecan Gap 2,490 ft.; base 2,894 ft.; top Austin chalk 3,476 ft.; coring 3,524 ft.
Sun Oil Co.'s No. 1 J. W. Akin, 330 ft. from N and W lines of 25.68-ac. tract in George A. Thomason Sur. ..... Set 6⅝-in. csg. 3,513 ft.
The Texas Company's No. 1 Walker, 330 ft. N of S line of 213-ac. lease and 150 ft. W of the Sabine River, S. L. Davis Sur. ..... Drlg. 1,900 ft.
L. C. Thorpe's No. 1 J. A. Butts, 4,850 ft. S of N and 5,300 ft. E of W line of survey, Mary Van Winkle Sur. ..... Top sand 3,535 ft.; T. D. 3,580 ft.; well caught fire and burned for 5 hrs.
Tidal Oil Co.'s No. 1 Lake Divernia Fish and Game Club, 300 ft. from N and 550 ft. from W lines of tract in William G. Painter Sur. ..... Rig up.
Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Derrick
H. M. Wages et al's No. 1 Finley and Thomas, 165 ft. from E and 150 ft. from S of 10-ac. lease, Charles H. Alexander Sur. ..... Shut down 3,200 ft
L. H. Wentz Oil Co.'s No. 1 G. W. Richie, 280 ft. S of NE cor. of W 20 acres of 40-ac. tract in the William Carlton Sur. ..... Location.
Woodley Petroleum Co.'s No. 1 Dyers, 200 ft. from S and 200 ft. from W of 640-ac. lease, H. Hathaway Sur. ..... Derrick.
Ziegler Oil Co.'s No. 1 L. D. Campbell, 540 ft. from N and 219 ft. from E of 72½-ac. tract, David Ferguson Sur. ..... Derrick.

HENDERSON COUNTY

Westside Investment Co.'s No. 1 Thornhill, 450 varas from W and 400 varas from N line of survey, James Spivey heirs Sur. ..... Shut down 4,850 ft.

HOPKINS COUNTY

Thelma Wells' No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tract in the John Polk Sur. ..... Derrick.

HOUSTON COUNTY

N. E. Irish's No. 1 Mrs. Byrdie Watters, 2,300 ft. W and 300 ft. S from the NE cor. of I. J. Ellis Sur. .. Rig up.
Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 186-ac. tract, Ramond LaGarza Sur. ..... Shut down 620 ft.
Phillips and Phillips' No. 1 Kennedy Bros., 485 varas out of SW cor. of 100-ac. tract, Jose M. Procella Sur. ..... Rigging up.

LAMAR COUNTY

Indian States Oil Co.'s No. 1 W. T. Watson in Ignatius Aud Sur. ..... Shut down 3,620 ft.
Puritan's No. 1 George Parr, 2,000 ft. from W of Frisco Railway and 1,000 ft. from E line of R. Russell Sur. ..... Ready to spud.

LEON COUNTY

Cooper et al's No. 1 Lynch, 4,000 ft. from W line and 250 ft. N from the S line of Thomas H. Gardner Sur., and in 200-ac. tract ..... Shut down 882 ft. (corrected depth).

LIMESTONE COUNTY

George McCamey's No. 1 B. K. Arnett, center of Blk. 13 in Casson Townsite ..... Shut down 1,720 ft.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tract, A. S. Young heirs Sur. ..... Derrick.
Shelby Oil Co.'s No. 1 Clayton Brown, located in Willis Coffey Sur. ..... Coring 3,364 ft.

NACOGDOCHES COUNTY

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tract, William A. Moore Sur. ..... Shut down 1,605 ft.
Burke et al's No. 1 F. R. Patterson, 6,515 varas from W and 315 varas from W line of Patterson 76-ac. tract, Joseph Las Santos Chay Sur. ..... Shut down 4,207 ft.
Churchill-Armstrong's No. 1 Max W. Hart, 2,640 ft. from N line and 2,640 ft. from S of N line of survey, George Pollett Sur. ..... Rig up.
Foreman and Weller's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road, in 73.5-ac. tract, Hossea Y. Barbo Sur. ..... Rigging up.
Foreman et al's No. 1 Robert Mattaner, NW cor. of 520-ac. tract, J. A. Cherino grant ..... Rig up.
Harwell and Scott's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tract, 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..... Shut down 2,260 ft.
Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..... Shut down 3,920 ft.
Morgan Oil Corp.'s No. 1 R. E. Burt, center of J. I. Reed 20-ac. tract, Jose Luy De La Bega Sur. ..... Shut down 4,012 ft.
Naco Oil Co.'s No. 1 J. C. Orton, 1,000 ft. NE of highway and E of town and E of creek in Nacogdoches Townsite, A. Riola Sur. ..... Spudding.
M. A. Vaughn's No. 1 Dixon Greer, in the M. G. Herrera Sur. ..... Derrick.
W. W. Wheeler's No. 1 I. D. Parmley, about 155 varas N of S line and about center of E line of survey, John Kirby Sur. ..... Shut down 3,850 ft.
Sequia's No. 1 Vanover, 6,072 ft. from N and 6,636 ft. from E of Alford Oliver Sur., E Boyd E 100-ac. tract ..... Derrick.
Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tract in the M. G. Horrera Sur. ..... Set 12-in. csg. 82 ft.
Big Indian Oil Co.'s No. 1 J. N. Stewart, center of 79-ac. tract in the Jose Ignacio Ybarbo Sur. ..... Derrick.
L. E. Trout and Dison's No. 1 E. A. Blount, 150 ft. out of NW cor. of survey and tract, E. D. Williams Sur. ..... Derrick.

RAINS COUNTY

Berry and Hale's No. 1 Ownsby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... Shut down 2,096 ft.

RED RIVER COUNTY

Royle and Jondreau's No. 1 V. S. Griffin, 700 ft. from N line and 650 ft. E of W line of survey, J. C. Brown Sur. ..... Derrick.
Droppleman and Bundy's No. 1 J. W. Cunningham, 250 ft. from the S and 1,066 ft. from the E lines of B. M. Ballard Sur. ..... Rig up.
Harris & Joiner's No. 1 E. Howison, 225 ft. S. 185 ft. W of 79-ac. tract, William Humphreys Sur. ..... Shut down 1,940 ft.
Pearsons et al's No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... Shut down 560 ft.

RUSK COUNTY—MISCELLANEOUS

Everett Drilling Co.'s No. 1 J. E. Ross, 100 ft. W of NE cor. of J. E. Ross 69-ac. tract, 11 miles E of Henderson in Jeremiah Leath Sur. ..... Shut down 2,703 ft.
Humble Oil & Refining Co.'s No. 1-B Hayward White, 990 ft. from N and 262 ft. from W lines of 134-ac. tract in J. M. Scott Sur. ..... Rig up.
Devonian's No. 1 Mrs. Janie Alford, 150 ft. from N and W lines of E 40-ac. Alford tract in Henry B. Dance Sur. ..... Derrick.

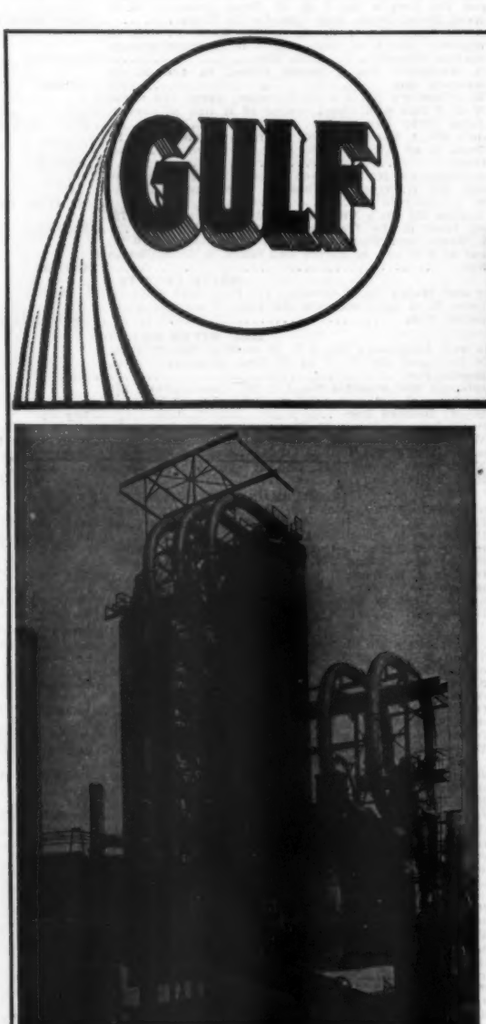
KILGORE AREA—RUSK COUNTY

E. L. Chapman's No. 1 B. O. J. Russell, 200 ft. from N and E lines of 38-ac. tract in J. English Sur. ..Location.
Crider and Manley's No. 1 R. A. Metley, 600 ft. from S and 1,150 ft. from W of J. T. McDaniels Sur. .... Derrick.
Harry Elliott's No. 1 Carroll, 175 ft. from N and 200 ft. from E of 7-ac. tract, W. R. Cook Sur. ..... Location.
Humble Oil & Refining Co.'s No. 1 R. E. Holt, 380 ft. from N and E lines of 91.4-ac. tract in the J. M. Barton Sur. ..... Rig up and shut down.
Lyle and Orr's No. 1 Powers, 2,200 ft. from N and 360 ft. from E of survey, J. Womack Sur. ..... Rig up.
Moser's No. 1 Buntyn, 554 ft. from N and 325 ft. from E of survey, the most northeasterly cor. of survey, J. C. Snow Sur. ..... Spudded; shut down.
Humble Oil & Refining Co.'s No. 1 W. P. Key, 330 ft. from N and 330 ft. from E of 42.28-ac. tract and survey, S. W. Field Sur. ..... Location.
Humble Oil & Refining Co.'s No. 1 George Alexander, 330 ft. from N and 500 ft. from W lines of 100-ac. tract in the Thomas H. Smith Sur. ..... Derrick.
Humble Oil & Refining Co.'s No. 1 S. G. Bagwell, 330 ft. from E and 330 ft. from S of 38-ac. tract, John Womack Sur. ..... Location.
Humble Oil & Refining Co.'s No. 1 Eula McDavid, 330 ft. from S and 400 ft. from NW lines of 88.6-ac. tract in the T. H. Smith Sur. ..... Derrick.
Imperator Oil Co.'s No. 1 J. Johnson, 150 ft. from S and 250 ft. SW of railroad on 17-ac. tract in the H. B. Dance Sur. ..... Location.
Pelton Petroleum Co.'s No. 1 C. O. Christian, 775 ft. N and 500 ft. W of NW cor. of Meredith McCabe Sur. in the J. S. Whiteman Sur. ..... Shut down 3,030 ft.
Mrs. Joyce Richardson, 150 ft. from N and 150 ft. from W of 10-ac. tract, Robert W. Smith Sur. ..... Derrick blown down.
Shell Petroleum Corp.'s No. 1 W. P. Moore, 1,075 ft. from N and 308 ft. from E lines of H. Wiggins Sur., Abstract 875 ..... Reaming to set 6-in. csg.; top sand 3,713 ft.
Southern Crude Oil Pur. Co.'s No. 1 Rena Christian, 330 ft. from E and 150 ft. from S of lease, W. R. Cooke Sur. ..... Top sand 3,668 ft.; T. D. 3,674 ft.; preparing to run csg.
State Production Co.'s No. 1 Gipson, 630 ft. from N and 175 ft. from E lines of tract in T. Lloyd Sur. .... Spudded and shut down.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..... Derrick.
Bullock's No. 1 Alford, 1,300 ft. from S and 150 ft. from W of survey, T. J. Moore Sur. ..... Shut down 2,953 ft.
Campbell Oil Co.'s No. 1 Compton, 600 ft. from N and W line and Simon Del Rio Sur., 1½ miles NW of Minden ..... Derrick.
Cap Rock Oil Co.'s No. 1 Burton, 1,100 ft. E of W line and 520 ft. S of N line in SE cor. of 62½-ac. tract, Juan Jose Yarbo Sur. ..... Set 10-in. csg. at 200 ft.
Dunnigan and Holt's No. 1 Cansler, 150 ft. N and W of SW cor. Gabe McIlroy 16.3-ac. tract in F. Cordova Sur. ..... Derrick.
Elzy and Tautenham's No. 1 Deason, 1,300 ft. from W and 3,700 ft. from S of survey, Juan Ximenes Sur. .. Shut down 2,310 ft.
Elzy Drlg. Co.'s No. 1 Frederick, 150 ft. from S and 603 ft. from W of Frederick 90-ac. tract, Juan Ximenes Sur. ..... Derrick.
C. C. Julian's No. 1 Motley, 780 ft. from N and 1,673 ft. from W of survey, J. T. McDaniels Sur. ..... Set csg.; T. D. 191 ft.
Kimbrough et al's No. 1 Weatherby, 300 ft. from N and 300 ft. from E. Robert Martin Sur. ..... Shut down 3,603 ft.
Leonard Petroleum Co.'s No. 1 Sanger Bros., 390 ft. from N and 350 ft. from W of survey, J. P. Meredith Sur. ..... Coring 3,982 ft.
Luling Oil & Gas Co.'s No. 1 Alford, 800 ft. from N and 4,820 ft. from E lines of the I. G. Parker Sur. ..... Set 6⅝-in. csg. 3,536 ft.
Ray Martin et al's No. 1 Russell, 600 ft. from N and 150 ft. from E lines of lease in T. J. Martin Sur. ..... Top sand 3,740 ft.; running tubing; T. D. 3,790 ft.

GULF



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Marr et al's No. 1 Lowns, 1,300 ft. from most westerly E line and 3,150 ft. from S line of survey, W. G. Tuttle Sur. ..... Derrick.
Mase and Tucker's No. 1 Matthews, 3,244 ft. from N, 4,356 ft. from E, Dalines Cartimas Sur. ..... Shut down 3,270 ft.
H. C. McBride's No. 1 Sue Hale, 150 ft. from S and 150 ft. from W of Sue Hale 83-ac. tract, John Darley Sur. ..... Set 12¼-in. csg. 212 ft.
Frank Melat's No. 1 Newton Orr, 300 ft. S of N line of 202½-ac. tract, William Tippett Sur. ..... Shut down 2,780 ft.
Nat Saddler's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... Shut down 1,985 ft.
Pitts et al's No. 1 Freeman, 1,000 ft. N of S line and 1,000 ft. E of W line of 181-ac. tract, J. Watkins Sur. ..... Rig blew down.
Priest et al's No. 1 Mayfield, 155 ft. from N and W lines of 22-ac. lease in Daniel Clark Sur. ..... Moving in rig.
Rowe et al's No. 1 Maxwell, 855 ft. from E and 237 ft. from S of B. F. Maxwell 59-ac. tract, R. H. Pinney Sur. ..... Derrick.
Shaheen and Keeler's No. 1 H. L. Griffin, 550 ft. from W and 2,000 ft. from S of survey, Juan Ximenes Sur. ..... Derrick.
Suttles' No. 2 Holland, 156 ft. from N and 152 ft. from W of Holland 41.7-ac. tract, M. J. Prue Sur. ..... Shut down 2,300 ft.

SMITH COUNTY

Adams and Berry's No. 1 T. O. Wright, 150 ft. from N line and 150 ft. from E line of Juan Vargus Sur. ..... Drlg. 1,150 ft.
Bailey Gaunce et al's No. 1 S. S. Cook, 150 ft. from S and 150 ft. from W of S. S. Cook 20-ac. tract in 139-ac. tract, Juan Vargus Sur. ..... Shut down 2,350 ft.
Ben Banner's No. 1 Lee White, 925 ft. from E line and 1,200 ft. from N line of Abraham H. Scott Sur. ..... Derrick.
Big Indian Oil Co.'s No. 1 Holland, 2,384 ft. from N and 1,446 ft. from E line of survey, Thomas Allen Sur. ..... Drlg. 3,770 ft.
G. B. Bunte, trustee's No. 1 A. S. Jarvis, 150 ft. from S and 150 ft. from W of 267-ac. tract, Juan Vargus Sur. ..... Rig up.
Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tract, Calloway Dean Sur. ..... Derrick.
Roy L. Carter's No. 1 T. O. Wright, 1,445 ft. from N and 182 ft. from E of survey, Juan Vargus Sur. .... Swabbing 3,708 ft.
Cotton Belt Oil Co.'s No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tract, Henry Mickleborough Sur. ..... Shut down 3,377 ft.
Deason Oil Co.'s No. 1 T. O. Wright, 1,440 ft. from N and 250 ft. from W of T. O. Wright 86-ac. tract, Juan Vargus Sur. ..... Derrick.
East Texas Refining Co.'s No. 1 Colored Methodist Church, James Jordan Sur. ..... Shut down 2,164 ft.
Gulf Production Co.'s No. 1 Jack Wiley, 150 ft. from S line and 250 ft. from E line of James Jordan Sur. ..... Derrick.
Hancock and McCarthey's No. 1 J. C. Cross, 200 ft. from E of road and 200 ft. N of S line of survey on a 13-ac. tract, Burbridge Sur. ..... Derrick.
John Hoosier et al's No. 1 W. T. Roberts et al, 300 ft. from N and 277 ft. from W lines of 13½ acres in the Juan Vargus Sur. ..... Drlg. 2,970 ft.
Imperator Oil Co.'s No. 1 I. M. Green, 140 ft. from S and 165 ft. from E line of Green 86.5-ac. tract, NW of Overton and N and a little E of Big Indian No. 1 Holland ..... Shut down 2,210 ft.
Joiner et al's No. 1 W. W. Wright, 847.5 varas from E and 647 varas from S of NW Wright 225-ac. tract, Van Sickle Sur. ..... Shut down 4,220 ft.
H. H. Lemaster's No. 1 T. O. Wright, 150 ft. from N and W lines of 8-ac. tract in J. Vargus Sur. .... Derrick.
Magnolia Petroleum Co.'s No. 2 Loosier, 300 ft. from S and 1,000 ft. from W lines of 126.7-ac. tract in J. Vargus Sur. ..... Drlg. 3,480 ft.
Magnolia Petroleum Co.'s No. 6 J. R. Wright, 2,400 ft. from E and 1,800 ft. from N of survey, Juan Vargus Sur. ..... Drlg. 2,320 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Thompson, 150 ft. from S and 150 ft. from W of 100-ac. lease, Isaac Moore Sur. ..... Drlg. 2,203 ft.
McCarthey and Hancock's No. 1 Nellie Taylor, 250 ft. out of SW cor. of 73-ac. Taylor tract, F. M. Taylor Sur. ..... Derrick.
A. A. McCutchin's No. 1 T. O. Wright, 150 ft. from E and 315 ft. from N lines of 5-ac. tract in Juan Vargus Sur. ..... Derrick.
McMillan's No. 1 Wright, 794 ft. from N and 171 ft. from W of T. C. Wright 86-ac. tract, Juan Vargus Sur. ..... Shut down 2,060 ft.
Morrison's No. 1 L. Roy, 330 ft. N and E from SW cor. of 87-ac. tract in Henry Cools Sur. ..... Shut down 3,340 ft.
M. M. Rowand et al's No. 1 Gibbons, 1,800 varas from W and 260 varas S of river (which is N line of survey), J. M. Garcia Sur. ..... Drlg. 3,320 ft.
Ruffin and Williams' No. 1 Hamp Florence, 700 ft. from N and 200 ft. from E of 192.5-ac. tract, Barnes Clark Sur. ..... Coring 3,965 ft.
Sinclair Oil & Gas Co.'s No. 3-A Jarvis, 1,383 ft. from E and 1,388 ft. from S of "A" lease, Juan Vargus Sur. ..... Preparing to test; T. D. 3,690 ft.
Sinclair Oil & Gas Co.'s No. 3-A Mayfield, 2,111 ft. from N and 2,305 ft. from E of survey, James Jordan Sur. ..... Preparing to complete; T. D. 3,803 ft.
Sinclair Oil & Gas Co.'s No. 1-C Jarvis, 660 ft. from N line and 962 ft. from E line of tract, M. D. Los Santos Coy Sur. ..... Drlg. 3,657 ft.
Sinclair Oil & Gas Co.'s No. 2 R. L. Wright, 1,348 ft. from N line and 477 ft. from E line of 107.2-ac. lease in Juan Vargus Sur. ..... Top sand 3,670 ft.; run csg.; T. D. 3,673 ft.
M. T. Smith & Son's No. 1 T. O. Wright, center of 10-ac. Wiley lease in Juan Vargus Sur. ..... Drlg. 1,620 ft.
Sun Oil Co.'s No. 1-B Ritch, 300 ft. from N and 281 ft. from W lines of 54-ac. tract in Juan Vargus Sur. ..... Drlg. 3,658 ft.
Sun Oil Co.'s No. 2 J. B. Henson, 200 ft. from N line and 286 ft. from W line of 216-ac. tract, Juan Vargus Sur. ..... Derrick.
Sun Oil Co.'s No. 2 J. H. Lane, 580 ft. W of No. 1 Samuel Dexter Sur. ..... Drlg. 2,595 ft.
The Texas Company's No. 2 Blackwell, 330 ft. from S and E lines of 100-ac. tract in James Jordan Sur. ..... Location.
The Texas Company's No. 1 J. W. Wilson, 300 ft. from N and 250 ft. from W lines of Wilson 125-ac. tract in David Collins Sur. ..... Top sand 3,666 ft.; set 6⅝-in. csg. 3,658 ft.; T. D. 3,676 ft.
The Texas Company's No. 2 J. W. Wilson, 527 ft. from most easterly W line and 350 ft. N of most southerly S line D. Collins Sur. ..... Drlg. 1,452 ft.
Mrs. S. O. Thompson's No. 1 S. S. Cooke, center of 5-ac. tract and lease in James Jordan Sur. ..... Set 10-in. csg. 124 ft.
Tytex Oil Co.'s No. 1 Alex Weidert, 2,030 ft. from S and 525 ft. from E lines of Franklin T. Bodenheimer Sur. ..... Derrick.
Vitex' No. 1 Irion, 150 ft. from S and E lines of 50-ac. tract in Mary Hughes Sur. ..... Set 12¼-in. csg. 108 ft.

TITUS COUNTY

H. V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... Shut down 1,064 ft.

UPSHUR COUNTY

Barkley et al's No. 1 J. B. Webb, 330 ft. from SE cor. of 31-ac. lease on 76-ac. tract, G. W. Hooper Sur. .... Drlg. 2,682 ft.
Brennan and Wood's No. 1 Robertson, center of Robertson 41-ac. tract, Ira Stephenson Sur. ..... Cored gray sand 3,691-95 ft.
Cockrell et al's No. 1 C. A. Lee, 150 ft. from S and 150 ft. E of 26½-ac. tract, W. L. Palmer Sur. ..... Derrick.
Callahan et al's No. 1 Lee R. Kay, 660 ft. from N and E lines of Charles O'Neal Sur. ..... Derrick.
Calhoun et al's No. 1 J. R. Penn, 265 ft. from S line and E line of Penn 104-ac. tract, Joseph Manning Sur. ..... Derrick.
Compton and Letts' No. 1 J. C. Wilsford, 300 ft. from E line and 2,700 ft. from S line of survey, L. Lomzollas Sur. ..... Derrick.
Cole and Butler's No. 1 D. F. Guest, 300 ft. out of NE cor. of Guest 129-ac. tract and survey ..... Derrick.
Dumas et al's No. 1 A. O. Phillips, 150 ft. from N and 150 ft. from E of W 25.2-ac. of 75-ac. tract, S. Harrell Sur. ..... Skid rig.
Gillett and Tarr's No. 1 Winnie and Wofford, 150 ft. from N and 150 ft. from E lines of 80-ac. tract, John L. Lowery Sur. ..... Fishing for core head; drlg. green sand 3,875 ft.
Home Oil Co.'s No. 1 F. D. Futrell, 150 ft. out of SW cor. and 520 ft. from E and 400 ft. from S line of 7.6-ac. tract, A. Lumbrara Sur., south of Gilmer ..... Shut down 2,380 ft.
Humble Oil & Refining Co.'s No. 1 T. D. Smith, 1,956 ft. from S line and 330 ft. from W line of lease, Hayden Edwards Sur. ..... Derrick.
A. D. King's No. 1 Lloyd, 156 ft. from N line of survey and 288 ft. from E line of 4-ac. tract, D. Sanches Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 3 J. W. Free, 150 ft. from W and N lines of 28.16-ac. tract in G. W. Hooper Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 4 J. W. Free, 600 ft. from W and 260 ft. from N lines of 28.16-ac. tract in G. W. Hooper Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 5 J. W. Free, 384 ft. from N and 330 ft. from E lines of 28.16-ac. tract in the G. W. Hooper Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 5 Hampton, 400 ft. from NW line and 400 ft. from SW line of lease in the D. Ferguson Sur. ..... Location.
Mary Ellen Oil Co.'s No. 1 J. W. Davis, 375 ft. from N and 425 ft. from W line of 215-ac. tract in J. Burleson Sur. ..... Location.
McMahon and McCullough's No. 1 E. H. Hamilton, 200 ft. from E and 150 ft. from S of 88-ac. tract, M. Chandler Sur. ..... Top sand 3,756 ft.; T. D. 3,762 ft.
McPhail and Smith's No. 1 Kay, 660 ft. from S and 660 ft. from W line of J. Elliott Sur., 1½ miles S of Big Sandy ..... Bailed dry; T. D. 3,655 ft.
Meade Bros.' No. 1 Woofard, 2,400 ft. from SE line and 1,250 ft. from NW line of survey, J. L. Lowery Sur. ..... Location.
G. P. Mitcham's No. 1 J. B. Bland, 165 ft. from E and 660 ft. from S of 62½-ac. tract and 15-ac. lease, G. W. Hooper Sur. ..... Set 10-in. csg. 104 ft.
W. H. Peckham's No. 1 J. B. Webb, 450 ft. from S line and 1,450 ft. from E line of tract, G. W. Hooper Sur. ..... Drlg. 3,230 ft.
Rogers and Rogers' No. 1 Walker, 300 ft. W of CEL of 28.1-ac. tract, McGee Sur. ..... Top Austin chalk 3,605 ft.
Roeser-Pendleton's No. 1 E. C. Evers, 293 ft. from N and 150 ft. from W lines of lease in G. W. Hooper Sur. ..... Derrick.
Smith Bros.' No. 1 J. W. Davis, 400 ft. from N and 800 ft. from W lines of S 200 acres of J. W. Davis 380-ac. tract in John Burleson Sur. ..... Derrick.
J. R. Smith's No. 1 J. B. Webb, 200 ft. N and 489 ft. W of SE cor. of W 20 acres of 71-ac. tract, G. W. Hooper Sur. ..... Derrick.
Sorrels & Duffey's No. 1 J. W. Wooden, 200 ft. from E and 200 ft. S of survey, Isham Williams Sur. .... Shut down 1,445 ft.
Sun Oil Co.'s No. 1 Hargrove, 250 ft. from S and 330 ft. from E lines of 200-ac. tract in Marshall Mann Sur. ..... Derrick.
The Texas Company's No. 1 H. L. Phillips, 150 ft. out of SW cor. of 18.65-ac. tract, H. A. Holit Sur. ..... Drlg. 2,835 ft.
A. A. Trammell's No. 1 O. M. Victory, 150 ft. from E and 150 ft. from S of SW 100 acres of survey, E. A. J. Evans Sur. ..... Top sand 3,618 ft.; T. D. 3,632 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 226-ac. tract, 3½ miles S of Canton, M. J. Cadena Sur. ..... Spudded and shut down 300 ft.
Hart Petroleum Corp.'s No. 1 M. L. Cox, 1,785 ft. N of S line and 524 ft. E of W line of Cox 300-ac. tract in Nugent Headright Sur. ..... Shut down 2,085 ft.
H. Helms et al's No. 1 Bogue, 647 ft. W and 155 ft. S of SE cor. of J. M. Brown 70-ac. in Marshall University Sur., SE of Van ..... Shut down 3,098 ft.
Joiner et al's No. 1 J. S. Meeks, 330 ft. out of the NE cor. of the 330-ac. tract, A. Ducher Sur. ..... Shut down 3,840 ft.
Humble Oil & Refining Co.'s No. 1 L. A. Dowdle, 1,027 ft. N of S line and 150 ft. E of W line, William Daniel Sur. ..... Temp. abnd. 2,987 ft.
Kelly Oil & Gas Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... Shut down 2,590 ft.
Neil McMehory's No. 1 R. V. Murphy, 150 ft. from N and 150 ft. W of survey, H. Bailey Sur. ..... Shut down 1,975 ft.
W. P. Palmer et al's No. 2 W. P. Forster, 600 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tract in the F. Montgomery Sur. ..... Shut down 3,000 ft.
W. A. Phillips et al's No. 1 Morris, 1,050 ft. S of N line and 350 ft. W of E line of center west of Norris 160-ac. tract in the C. L. Morris Headright Sur. ..... Shut down 3,075 ft.
Pure Oil Co.'s No. 1 B. W. Camper, 600 ft. S of N line and 200 ft. E of W line of Camper 55-ac. lease, John Walling Sur. ..... Coring 2,870 ft.
Pure Oil Co.'s No. 2 J. M. Martin, 675 ft. W of E lines and 225 ft. S of N line of lease, Mund Gross Sur... Drlg. 1,800 ft.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .... Shut down 2,530 ft.

WOOD COUNTY

Brennan and Wood's No. 1 L. W. Mings, 300 ft. from NW cor. of survey and tract, Moses Stripling Sur... Derrick.
Loche and Clark's No. 1 A. C. Pick, 165 ft. S of NE cor. G. C. Reeves 25-ac. tract, Daniel Fuller Sur. .. Shut down 2,008 ft.
Deep Rock Oil Co.'s No. 1 Maud Smith, center of Maud Smith S 40-ac. tract, L. Johnson Sur. ..... Drlg. 4,408 ft.
Main Holding Co. and Thelma Wells' No. 1 Stewart, 1,938 ft. from NE and 2,898 ft. from E line of survey, E. Rehorse Sur. ..... Shut down 465 ft.
Vitek Oil Co.'s No. 1 Rosa Bogel, 250 ft. from N and 500 ft. from W of survey, Sarah English Sur. ..... Shut down 2,760 ft.
M. O. Walmer Oil Co.'s No. 1 J. A. Ivey, center of 57-ac. tract, 2 miles NE of Mineola, A. Hamilton Sur... Coring 4,007 ft.
Wood County Oil & Gas Co.'s No. 1 Ivy Davis, 180 ft. from S line of 160-ac. tract, Sarah McDonald Sur. .. Building derrick.

ALCO

Installations Completed or Under Construction in First Half of 1931

FIVE Vacuum Distillation Units, each of 6,000 Barrels Daily Capacity. This is the largest order ever placed for high vacuum oil refining equipment. The complete installation represents a daily throughput of 60,000 to 70,000 barrels of original crude. The units are for the manufacture of various grades of lubricating oil when running for asphalt bottoms.

•

ONE Reducing Still Unit to handle 3,000 Barrels Per Day of Pressed Wax Distillate. Designed for the manufacture of various grades of neutral oils to rigid market specifications.

TWO Complete Two-Stage Atmospheric and Vacuum Units, each of 10,000 Barrels Capacity. Each unit a self-contained installation, designed for the continuous recovery of gasoline, naphtha, kerosene, gas oil, wax distillate, overhead cylinder stock and penetration asphalt bottoms.

•

ONE Combination Solution Re-run and Reducing Still Unit of 2,700 Barrels Daily Capacity. Designed with flexibility for re-running cylinder stock solution, or pressed wax distillate for various grades of neutral oils.

The above list shows only the orders for major installations and does not include a large number of orders for auxiliary refinery equipment that have been placed with Alco Products this year.

ALCO PRODUCTS · INCORPORATED

MAIN OFFICE: *220 East 42d St., New York* · DISTRICT OFFICES: *McCormick Bldg., Chicago, Ill.; Terminal Tower Bldg., Cleveland, Ohio; Esperson Bldg., Houston, Tex.; Philtower Bldg., Tulsa, Okla.* · Plants at Dunkirk, N.Y., and Montreal, Can. · *Cable Address:* Alproducts
EUROPEAN OFFICES: AMERICAN LOCOMOTIVE SALES CORPORATION, *25 Victoria St., London S. W. 1, England.* E. H. Pearson, *Mgr.*

DIVISION · OF · AMERICAN · LOCOMOTIVE · COMPANY

Brief Items for Petroleum Refiners

Small Local Plants Under Construction At Several Points

Reports from scattered fields in the Rocky Mountain states show that a number of small skimming plants are either operating or under construction. Decision to build these plants is usually due to the fact that there is either no other market for the crude oil or the plant owners have been able to build up a favorable local market for the refinery products. Several of these plants which usually do not have a capacity in excess of 50 bbls. daily have been built in recent months at scattered points in the Mid-Continent area. In the latter area some of the producers in the older fields were unable for a time to secure pipe line connections and the owners had their choice of either shutting down their wells or building small skimming plants which could refine the available production.

The products of the plants depend entirely on the grade of crude oil. Only those products are produced which can be obtained from the various crudes by distillation at atmospheric pressure. In some cases the crude oils do not contain gasoline. An average grade of Mid-Continent or Rocky Mountain crude oil yields gasoline, kerosene, distillate or gas oil and a fuel oil residuum. All the products usually are sold locally from tank wagons. In some cases the owners have built service stations adjoining the plants which are located along main highways.

Wyoming Plants

There are several plants of this type in the Osage district of Wyoming. The Osage Field has a production of approximately 1,300 bbls. daily with no outside pipe line connections. Part of the production is owned by small producers who are interested in the skimming plants. Similar conditions prevail in other small fields of Wyoming.

At Torrington, Wyo., Ed Bishop formerly connected with Esago Operating Co. is building a small plant to operate with Osage crude oil. A larger plant with a capacity of 300 bbls. daily is now being operated at Osage by the Northwestern Petroleum Co. F. W. Palis is manager of the plant. Among the plant's product is a dry cleaner's naphtha. At Alliance, Nebr., a plant which will have a capacity of approximately 100 bbls. daily is being built by James W. Enes. Crude oil will be obtained by tank car from the Osage Field.

Another 100-bbl. plant is located north of Osage. It is owned by Charles Martens and associates. At Newcastle, Wyo., the Eclipse Oil & Refining Co. is operating a 50-bbl. skimming plant. At Lusk, Wyo., the Home Oil & Refining Co. has started operating a new plant with a capacity of 15 bbls. daily. Crude oil is trucked from the Osage Field to the plant. Between Lusk and Newcastle, the Interstate Oil & Refining Co. is operating a 50-bbl. plant with crude oil from the West Mule Creek Field. Another small plant is being built by the Eaton Oil Co. between Lingle and Torrington, Wyo. The Yellowstone Petroleum Co., Inc., with production in the Osage Field is reported to be considering the construction of a 1,000-bbl. plant at Lead, S. D.

In Oklahoma, Walter Neustadt of Ardmore is building a 75-bbl. plant in the Kingston shallow field in southern Marshall County. The owner is planning on manufacturing lubricating oil from the crude. The plant will be operated under the name of the Pilgrim, Inc., with headquarters at Kingston. Max Westheimer is vice president of the company. Small skimming plants of 5 to 25-bbl. capacity have been operated in other Mid-Continent fields.

GLADETEX REFINERY IN OPERATION THIS WEEK

The skimming plant of the Gladetex Refining Co. at Gladewater, in East Texas, will be completed the latter part of this week and will start operating immediately. The company which is now being incorporated under the laws of Texas is owned by H. L. Lockhart of El Paso and Walter K. Campbell of Wichita, Falls, Tex. The latter has been connected with the ownership and operation of several Mid-Continent refineries in recent years.

J. D. Goulett, at Gladewater, is superintendent of the refinery. Sales will be handled by Messrs. Lockhart and Campbell. Most of the products will be distributed locally. The plant is located on the Texas & Pacific Railroad.

BUTLER PLANT OPERATING

The Ultra-Penn Refining Co., which recently took over the Butler, Pa., refinery of the Butler County Oil Refining Co., is now operating the refinery on a settled basis. The plant has complete equipment for refining Pennsylvania crude oil with a capacity of 1,000 bbls. daily.

Harold C. Eaton is president and general manager of the newly organized Ultra-Penn company. H. H. Phillips and Myron Evans are vice presidents of the company and F. C. Dodds secretary and treasurer. Myron Evans is manager of the tank car sales and Earl Zinn manager of bulk and service stations. William G. Wagner is superintendent of the refinery.

NORGOLD PLANT OPERATING

The Norgold Refining Co. has started operating a 300-bbl. skimming plant which the company built near Olney, Tex. The plant has a capacity of 300 bbls. daily.

N. D. Goldsmith is president of the company and J. P. McGee is vice president and superintendent of the plant. A. T. Gray is secretary and treasurer in charge of sales. The plant later will be connected with the Frisco railroad. The products at present are distributed locally.

U. S. MOTOR SPECIFICATIONS

WASHINGTON, D. C., Aug. 3.—The Federal Specifications Board has approved the newly proposed changes in the specifications for U. S. Government Motor Gasoline. The more important provisions include a maximum Reid vapor pressure, taking distillation readings as the percentage distilling over instead of the amount recovered in the flask and also a more detailed regulation with respect to the vapor pressure when the material is to move to especially torrid regions. In the final form, the specifications provide that when the Reid vapor pressure is taken at the refinery, barge or bulk station that an additional 1 pound per square inch in vapor pressure shall be allowed for loss in transit. The finished form also prescribes that the vapor pressure at 37.8° C. (100° F.) shall not exceed 12 pounds per square inch. Except for these two modifications, the new specifications were approved in the same form as outlined in The Oil and Gas Journal, April 23, 1931, on page 21.

PLANT AT ARTESIA TO START OPERATING SOON

The new refinery of the Malco Refineries, Inc., located at Artesia, N. M., will be completed within a few days and probably placed in operation by the middle of the month. The plant will be operated with Artesia crude oil and the output of the plant will be distributed in that territory. The plant includes a pipe still distillation unit which is being installed by the Southwestern Engineering Corp. The capacity is 1,500 bbls. daily.

M. E. Barst, with headquarters in Artesia, is president and general manager of the company. R. E. Shingart is secretary and treasurer, L. R. Simon, plant superintendent, and Robert Halley, manager of bulk and service stations. The plant is located on the Santa Fe Railroad.

REPUBLIC CRACKING UNIT STARTS OPERATING SOON

The Republic Oil Refining Co., which recently started operating its 5,000-bbl. refinery at Texas City, Tex., will have its new cracking unit in operation by the end of the month. The plant, which is the Winkler-Koch type, has a capacity of 3,500 bbls. daily.

The Republic company has its operating offices in the Second National Bank Building, Houston, Tex., and its executive offices in the Benedum Trees Building, Pittsburgh, Pa. O. D. Robinson, for several years an official of the Transcontinental Oil Co., is president of the company. D. W. Hovey, former vice president of the Waverly Oil Works Co., Pittsburgh, Pa., is vice president and general manager. Other officers are J. O. Corner, vice president; Otto Massey, secretary, and W. H. Moreland, treasurer.

H. T. Hoffmaster, Jr., with headquarters in Houston, is sales manager, and L. M. McKinney plant superintendent. The refinery has railroad connections with all the principal railways serving the Gulf Coast territory and also has water terminal facilities.

KETTLEMAN GASOLINE TO LAY CRUDE LINE

The Kettleman Hills Gasoline Co. will lay a line from the Kettleman Hills Field in California to its plant at Hanford. The company has been using trucks to haul the crude from the field to the refinery but as the result of plans to increase the capacity of the plant to 3,000 bbls., will lay the line. Equipment will also be added for the manufacture of lubricating oils and asphalt.

An additional quantity of crude has been assured as the result of the Associated Oil Co. drilling a second well in this area.

MACMILLAN TO DALLAS

Headquarters of the Chicago, Borger and Tyler offices of Macmillan Petroleum Corp., have been moved to Dallas, Tex. The Chicago office was moved early in July to the ninth floor of 624 South Michigan Avenue. W. K. Jones is in charge of this branch.

BRITISH WAX IMPORTS LESS

NEW YORK, Aug. 3.—Imports of paraffin wax into the United Kingdom during the first six months of 1931 totaled 604,572 cwts., valued at £529,066, as compared with 715,360 cwts., valued at £730,124 in the first half of 1930.

To Start Operating Old Western Plant At Hutchinson, Kans.

A refinery located at Hutchinson, Kans., has been purchased by D. E. Carpenter of Des Moines, Iowa, from C. L. Brown of Abilene, Tex. The plant which has a crude oil capacity of 2,000 bbls. daily will be reconditioned immediately and will be operated under the name of the Hutchinson Refining Co. It is expected that the plant will be ready to operate by August 15. Fifteen tank cars were included in the purchase.

The Hutchinson plant was built several years ago and has been operated intermittently. It was shut down the last time about 1½ years ago. It was operated as the Hutchinson Oil & Refining Co. at that time. In addition to the skimming plant, the refinery has a cracking unit which was installed about two years ago and operated for 60 days when the refinery was shut down.

The cracking plant is a Trumbull unit being the only one of its type in the Mid-Continent Field. It has a rated capacity of 750 bbls. daily. The new owners expect to operate the cracking plant. Eugene Sapp, former superintendent of the Derby Oil Co. refinery at Wichita, Kans., has been appointed superintendent of the Hutchinson refinery.

Mr. Carpenter and sons are engaged in the oil marketing business with headquarters in Des Moines which will furnish an outlet for part of the refinery output. He has also purchased a half interest in the Hipple and Rogers 160-acre Rainey lease in Rice County. This property which is about 14 miles north of the refinery has one 1,800-bbl. well producing.

OIL BURNER SALES OFF FIRST 6 MONTHS 1931

WASHINGTON, D. C., Aug. 1.—The oil burner business showed a decrease in the month of June and for the six months ending June, 1931, not only for the half year period but for each month compared with the records in 1929 and 1930.

New orders received in June, 1931, numbered 6,048 and for the six months' period 28,797, compared with 8,924 and 38,380 for the two periods of 1929, and 7,927 and 38,802 for 1930, according to figures compiled from data reported to the Census Bureau by 106 manufacturers. Foreign shipments, however, showed an increase, being 158 for June, 1929, 234 for June, 1930, and 307 for June, 1931. For the six months' period ending June, foreign shipments were 887 for 1929, 1,294 for the 1930 period, and 1,244 for the first six months of 1931.—C. E. K.

TIDE WATER AWARDS PRIZES

NEW YORK, Aug. 3.—The central suggestion committee of the Tide Water Oil Co. has announced winners of the major awards granted by the company each year to employes at the Bayonne refinery for suggestions leading to improvement in equipment or products, or tending to reduce waste.

The winners of the major awards are as follows:

Fred C. Bruns, machine shop, suggestion for improving lubricating system on the Herrschoff burners at the filter plant—$200.

Michael Coughlin, Yard No. 1, improved method of rerunning off-tests and slop cuts—$150.

Charles Northey, cracking coils, suggestion for installing overflow outlets at the cracking coils—$100.

Manufacture of Natural Gasoline

Natural Gasoline Mixed With Crude Subject to Taxes

Natural gasoline transported by pipe line along with crude oil is subject to the Kentucky oil production tax, according to a ruling of J. W. Cammack, attorney general of Kentucky. The attorney general in reply to a request from the State Tax Commission held that the natural gasoline due to the method of handling is an essential part of the crude oil production. In connection with the ruling he issued the following statement:

"In the process of producing and handling its oil and gas products, a certain amount of natural gasoline is produced. Owing to the lack of other transportation facilities, this is allowed to run into the pipe line of the Cumberland Pipe Line Co. for transportation to the refineries where it is reclaimed.

"The Swiss Oil Corp. has asserted a claim that the oil production tax imposed by Section 4223c-1, etc., of Kentucky Statutes does not apply to the production of gasoline, natural gasoline being as a matter of fact a product of and a condensate from natural gas rather than from crude oil and that such gasoline is not in any sense crude petroleum subject to taxation under the above quoted section.

"For your further information concerning the production and transportation of this natural gasoline, commonly known as casinghead gasoline, we quote from a letter of the Swiss Oil Corp. to this commission dated May 28, 1931:

" 'The Swiss Oil Corp. in connection with its oil-producing properties in Johnson County, Kentucky, and as a by-product of its compressor station used in repressuring the oil-producing sands with natural gas has incidentally produced and saved a certain amount of gasoline accumulated in its gas lines, a small portion of it being disposed of locally—of which it made due report to your commission and paid the gasoline tax thereon—but a considerable amount of which it was unable to otherwise dispose of until it made an arrangement with the Cumberland Pipe Line Co. by which, in the month of April, 1931, it delivered and transported through the pipe line system of the company some 1,184 bbls. of such gasoline.

" 'The subsidiaries of Swiss Oil Corp., viz.: Ashland Refining Co. and Tri-State Refining Co., receive at their respective plants substantially all of the production transported by the Cumberland Pipe Line Co.'s system in this section of the State, so that although by such process of transportation the gasoline becomes mingled with crude oil it is reclaimed and saved in the process of refining, no other practical way of transporting and saving such product having been devised.'

"We desire your opinion as to whether gasoline so produced is subject to the oil production tax.

"You will observe that the letter of the Swiss Oil Corp., which is incorporated as a part of your letter of June 30, says:

" 'And as a by-product of its compressor station used in repressuring the oil producing sands with natural gas, etc.'

"It is our opinion that the producing of this gasoline from 'repressuring' the crude oil makes it clear that the gasoline in question is part of the crude petroleum and as such is subject to the gasoline tax. It is physically a part of the crude petroleum before the repressuring takes place. The question presented to us is not free from its difficulties, particularly for a person who is not a chemist but it is our conclusion, as previously stated, that it is subject to the crude oil tax imposed by the statutes."

NATURAL GASOLINE PRODUCTION LOWEST SINCE SEPTEMBER, 1928

Natural gasoline production in the United States declined to the lowest level in June since September, 1928, according to the monthly report of the Bureau of Mines. During June declines were shown in all of the major producing states, the average daily supply being reduced to 4,930,000 gallons for the month. This compares with 5,170,000 gallons for May and 6,000,000 gallons a year ago. The total production for the month declined to 147,900,000 gallons against 160,000,000 gallons for May and 179,300,000 gallons a year ago.

Oklahoma showed the largest decline in production compared to the month previous and compared to a year ago. This is accounted for by the natural decline in the gas production among the older fields in the State. The principal field to show this decline is the Seminole area where production dropped from 24,900,000 gallons in June a year ago to 14,100,000 gallons for the same month this year. This decline could have been equalized to a large degree had the Oklahoma City Field been allowed to produce a maximum but this area has been held under a strict crude proration order which has caused a corresponding decline in the gas and gasoline output. As a result the Oklahoma City area has continued at a low level of production, the increase over the year being but 1,600,000 gallons when comparing the June output a year ago of 3,800,000 gallons to the output this year of 5,400,000 gallons.

California showed the next greatest decline in production. All fields in this State showed declines compared to May and compared to June of last year with the exception of the Kettleman Hills area. Here the production was increased to 15,600,000 gallons for June compared to 15,400,000 gallons in May and 13,800,000 gallons in June a year ago. The slow development of this field has also held production to a low level compared to what could be produced. This fact is further emphasized in that the total California production declined from 65,300,000 gallons in June a year ago to 56,500,000 gallons this year, the decline in all fields greatly outweighing the increase in the Kettleman Hills area.

In a similar manner, Texas has shown a decline in its natural gasoline output but this decline has not been as great as the other two states and outside of the Panhandle, North Texas and West Central Texas there has been an increase from 3,600,000 gallons in June a year ago to 5,200,000 gallons this June. Stocks of natural gasoline continued to decrease during June also. The reduction amounted to 127,000 bbls. compared with a reduction of 4,000 bbls. for May.

Refiners blended slightly less natural gasoline at their plants in June than in May and jobbers and exporters as a group received less into their facilities. A substantial increase was shown, however, in the volume of natural gasoline mixed with the crude and delivered to refineries in California by pipe line. This quantity was increased from 86,000 bbls. to 107,000 bbls.

The drop in the volume of natural gasoline taken by jobbers and exporters was probably due principally to the lesser exports rather than a decline in the jobber business, although no separation may be made in the figures. Exports of all petroleum products declined materially in June and this fact, together with the coming of warmer weather, accounts for the decrease in the export sales.

The detailed statistics for the period in question appears below:

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE
(Thousands of barrels of 42 U. S. gallons)

	June, 1931		May, 1931		Jan.-June, 1931	
	Total	Dly. av.	Total	Dly. av.	Total	Dly. av.
Production	3,521	117	3,814	123	22,978	127
Decrease in all stocks	127	4	29	1	....	....
Total	3,648	121	3,843	124	22,978	127
Blended at refineries	2,802	93	3,011	97	17,797	98
Run through pipe lines in California	107	4	86	3	496	3
Blended at plants east of California	15	1	14	1	82	1
Jobbers, exports, etc.	225	7	400	13	1,900	10
Increase in all stocks	....	....	....	....	698	4
Balance	499	16	332	10	2,005	11
Total	3,648	121	3,843	124	22,978	127

PRODUCTION AND STOCKS BY FIELDS
(Thousands of gallons)

	Production				Stocks end of month		Blended motor fuel June, 1931		
	June, 1931	May, 1931	June, 1930	Jan.-June, 1931	June, 1931	May, 1931	Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	4,300	5,900	6,000	41,900	4,500	5,601	76	92	175
Ill., Ky., etc.	600	700	800	5,200	443	497	....	....	....
Oklahoma	37,800	42,600	52,900	247,700	11,465	15,867	124	150	73
Oklahoma City	5,400	5,600	3,800	26,300	3,151	4,213	....	....	....
Osage County	5,000	5,400	6,100	34,700	1,950	3,560	5	4	8
Seminole, etc.	14,100	16,100	24,900	95,800	3,155	3,230	27	19	15
Rest of State	13,300	15,500	18,100	90,900	3,209	4,764	92	127	50
Kansas	2,200	2,500	2,700	15,700	1,951	2,142	34	22	11
Texas	34,300	35,700	38,600	224,100	9,276	9,995	155	265	57
Panhandle	16,600	17,200	18,800	106,900	4,955	4,785	89	46	21
North Texas	3,800	3,000	3,500	20,200	801	1,015	10	5	11
West Central	9,700	10,700	12,700	65,500	2,573	3,153	56	214	25
Rest of State	5,200	4,800	3,600	31,500	946	1,042	....	....	....
Louisiana	4,000	4,100	5,600	27,200	737	805	35	13	3
Arkansas	2,300	2,500	2,800	14,900	233	222	206	173	11
Rocky Mountain	5,900	6,100	4,600	32,300	731	1,118	....	....	....
California	56,500	60,100	65,300	355,100	6,794	5,590	....	....	....
Huntington Beach	1,700	1,900	2,600	11,200	....	....	....	....	....
Kettleman Hills	15,600	15,400	13,800	88,500	....	....	....	....	....
Long Beach	10,900	11,700	13,500	73,800	....	....	....	....	....
Santa Fe Springs	9,800	11,200	15,500	65,000	....	....	....	....	....
Ventura Avenue	4,400	4,800	4,800	28,300	....	....	....	....	....
Rest of State	14,100	15,100	15,100	88,300	....	....	....	....	....
Total	147,900	160,200	179,300	965,100	36,129	41,827	620	714	335
Daily average	4,930	5,170	5,980	5,330	....	....	21	24	....
Total (thousands of barrels)	3,521	3,814	4,269	22,979	860	996	15	17	8
Daily average	117	123	142	127	....	....	....	....	....

California Output And Shipments Show Decreases in June

One hundred twenty-five natural gasoline plants in California with a daily indicated capacity of 2,530,873,000 cubic feet, report a recovery of 56,529,846 gallons of natural gasoline from 38,392,060,000 cubic feet of gas treated in June. This is a decrease of 1,308 bbls. in daily average production.

Utilization of natural gasoline, including shipments, amounted to 1,281,494 bbls., a decrease under May of 114,326 bbls. Daily average utilization of 42,716 bbls. was 2,149 bbls. less than daily average production of 44,865 bbls.

Stocks of natural gasoline at the end of June amounted to 1,795,820 bbls., of which 161,759 bbls. were reported by natural gasoline plant operators and 1,634,061 bbls. by refinery operators. This is an increase of 64,455 bbls. over May stocks. This stock figure of 1,795,820 bbls. is approximately 42 days' supply at the current rate of consumption.

CALIFORNIA NATURAL GASOLINE PRODUCTION, DISTRIBUTION AND STOCKS, JUNE, 1931

Production by fields—	Gas treated*	Natural gasoline produced (gals.)
Fullerton and Whittier	692,841	1,619,975
Midway	1,743,154	3,302,578
Huntington Beach	551,594	1,746,127
Kettleman Hills	12,537,044	15,638,118
Long Beach	5,538,818	10,879,233
Richfield	448,110	576,461
Santa Fe Springs	6,594,801	9,779,200
Seal Beach	526,894	1,002,716
Ventura Avenue	4,612,252	4,405,431
All other fields	5,146,552	7,579,007
Total	38,393,060	56,529,846

*Thousands of cubic feet.

PRODUCTION BY METHODS

Type of plant—	Gas treated M.C.F.	Natural gasoline produced (gals.)
Oil absorption	38,213,916	56,321,580
Compressor	178,144	208,266
Total	38,392,060	56,529,846

	Bbls.	Bbls.
Finished gasoline produced at plants		144
Distribution—		
Stocks first of month		1,731,365
Produced during month		1,345,949
Quantity mixed with crude or unfinished oils	106,668	
Used in blending at refineries	923,229	
Shipments	77,102	
Stocks end of month	1,795,320	
Balance*	174,494	
Total	3,077,314	3,077,314

*Includes evaporation losses, purchase by jobbers for blending, etc.

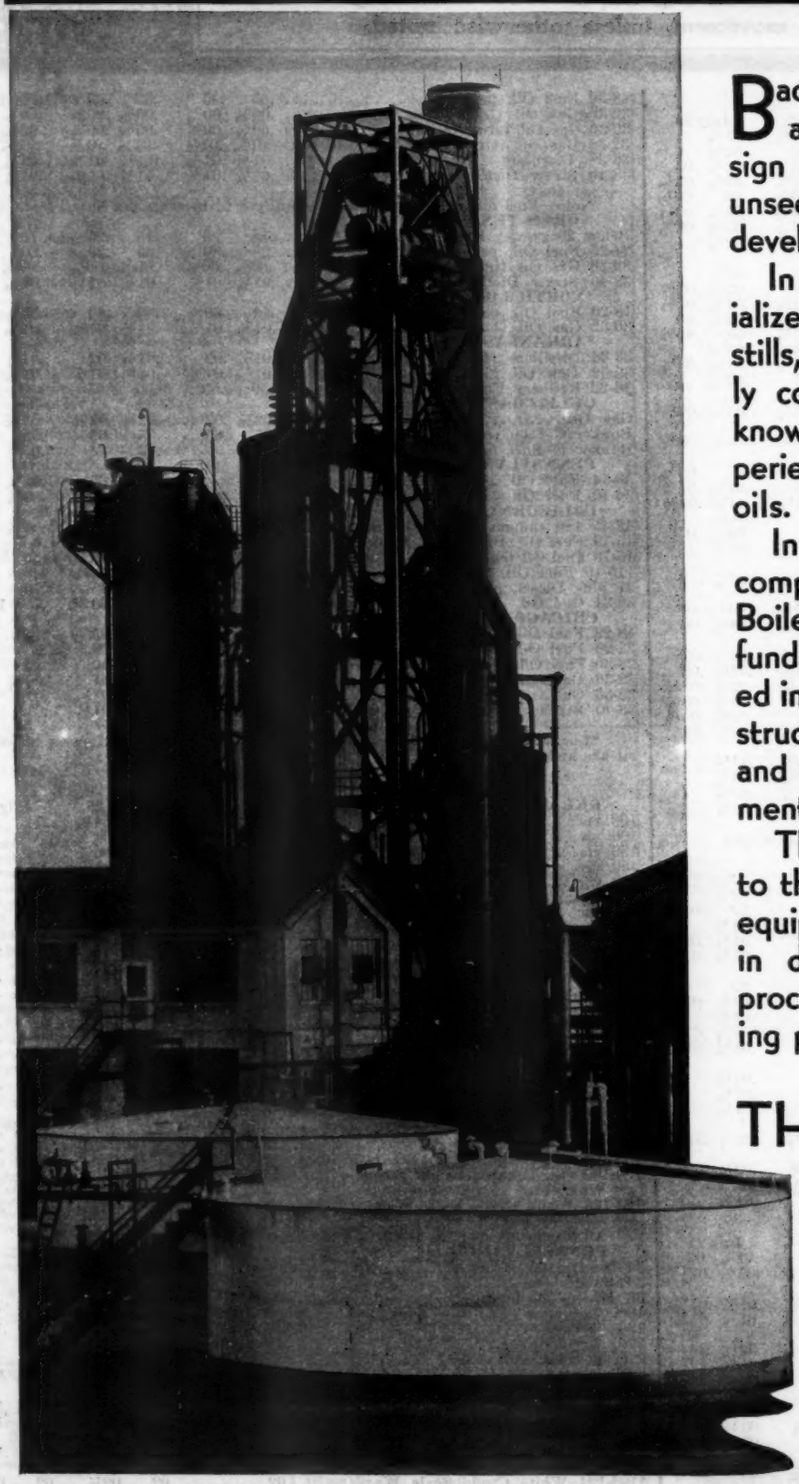
Stocks—	Gallons	Bbls.
Natural gasoline held by natural gasoline plant operators	6,793,383	161,759
Natural gasoline held by refineries	68,630,562	1,634,061
Total	75,424,445	1,795,320

NATURAL GAS NOT BEING WASTED IN EAST TEXAS

Natural gasoline prices will have to raise to be attractive to the building of natural gasoline plants in the East Texas area, according to testimony given by Ben Bell, chief geologist for the Gulf Production Co., before the Senate Investigating Committee of Texas. The subject of gas waste became of chief interest in which an attempt was made to prove that large quantities of gas were being wasted in the East Texas Field. Mr. Bell stated that 300 cubic feet to a barrel of oil produced in East Texas, 450 feet at Van and 5,000 feet at Big Lake is not wasted because it is lifting oil and saving pump-

(Continued on Page 110)

THE UNSEEN BACKGROUND



Back of every Lummus Refining Unit and back of the Engineering Design which gave it birth, there is an unseen background of research and development work.

In laboratories equipped with specialized apparatus and small scale plant stills, Lummus Engineers are constantly contributing to the accummulated knowledge of scientific fact and experience in the processing of petroleum oils.

In the laboratories of our parent companies, The Babcock and Wilcox Boiler Co. and the Superheater Co., fundamental research is being conducted in the behavior of materials of construction under conditions of stress and temperature, and in the development of new materials.

These unseen efforts are devoted to the betterment of Lummus refinery equipment and are reflected concretely in dependable equipment, improved processes and plants of greater earning power.

THE LUMMUS CO.

Builders of Petroleum Plants

148 STATE STREET, BOSTON

30 CHURCH STREET, NEW YORK

LUMMUS PETROLEUM REFINING PLANTS

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Aug. 4		July 28		July 21	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.02⅞	.03¼	.02⅞	.03¼	.02⅝	
56-58 450 endpoint	.03		.02⅞	.03	.02⅝	
58-60 437 endpoint (U. S. Motor)	.03⅛	.03⅜	.03	.03¼	.02¾	.03
60-62 437 endpoint	.03⅛	.03⅜	.03	.03⅜	.02¾	.03⅛
60-62 400 endpoint	.03¼		.03⅛	.03⅜	.03	.03⅛
64-66 375 endpoint	.03¼	.03½	.03¼	.03½	.03⅛	.03¼
68-70 360 endpoint	.03⅜	.03½	.03⅜	.03½	.03¼	.03⅜
64-66 437 endpoint (blend)	.02⅞	.03	.02⅞	.03	.02⅝	
NORTH TEXAS—						
50-52 450 endpoint	.02¾	.03	.02¾	.03	.02½	
58-60 450 endpoint	.02⅞	.03	.02⅞	.03	.02½	.02⅝
58-60 437 endpoint (U. S. Motor)	.03⅛	.03¼	.03	.03⅛	.02⅝	.02¾
60-62 400 endpoint	.03⅜	.03¼	.03⅛	.03¼	.02⅞	.03
64-66 390 endpoint	.03¼	.03½	.03⅛	.03¼	.03	.03⅛
64-66 375 endpoint	.03¼	.03½	.03¼	.03½	.03⅛	
68-70 360 endpoint	.03⅜	.03½	.03⅜	.03½	.03⅛	.03¼
64-66 437 endpoint (blend)	.02⅞	.03	.02⅞	.03	.02⅝	
***NORTH LOUISIANA—**						
58-60 437 ednpoint (U. S. Motor)	.03⅜	.03½	.03⅜	.03½	.03¼	.03⅜
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.03¼	.03⅜	.03¼	.03⅜	.03⅛	.03¼
PENNSYLVANIA—						
52-54 Naphtha	.04½		.04¼		.04	.04¼
54-56 Naphtha	.04½		.04¾	.04½	.04¼	.04¾
58-60 Gasoline	.04¾		.04¾	.04½	.04¼	.04⅝
60 Gasoline	.04¾	.05	.04½		.04¼	
62 Gasoline	.05¼		.05		.04¾	.05
64 Gasoline	.05¼	.05½	.05¼		.05¼	
CALIFORNIA—						
68-70 350 endpoint gasoline	.05½		.05¼		.05¼	
CALIFORNIA—						
†54-58 437 endpoint (U. S. Motor) domestic	.04¾	.06	.04¼	.05½	.04½	.06
58-60 400 endpoint domestic gasoline	.05	.06¼	.04½	.05½	.04¾	.06
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.02¾	.03	.02¾	.03	.02⅜	.02⅝
58-60 437 endpoint (U. S. Motor)	.03⅛	.03⅜	.03	.03⅛	.02¾	.03
60-62 400 endpoint	.03¼	.03½	.03¼	.03½	.02⅞	.03⅛
64-66 375 endpoint	.03⅜	.03⅝	.03¼	.03⅜	.03¼	.03⅜
64-66 437 endpoint (blend)	.02¾	.03	.02¾	.03	.02⅜	.03½
68-70 360 endpoint	.03½	.03¾	.03½	.03¾	.03⅜	.03½
GULF COAST (Export)—						
58-60 U. S. Motor	.03¼	.03½	.03¼	.03½	.03½	
60-62 400 endpoint	.03½	.03⅝	.03½	.03⅝	.03⅝	
61-63 390 endpoint	.03⅝	.03¾	.03⅝	.03¾	.03¾	
64-66 375 endpoint	.03⅝	.03¾	.03⅝	.03¾	.03¾	

*Louisiana, Arkansas and Mississippi delivery. †For local consumption.

NATURAL GASOLINE

	Aug. 4		July 28		July 21	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03¼		.02¾		.02¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.03		.02½		.02	.02⅛
Grade B, 76-83.9, 375 e.p., rec. 85%	.02¾		.02⅝		.01⅞	
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅞		.02¼		.01¾	.01⅞
Grade C, 80-92, 375 e.p., rec. 78%	.02⅞		.02¼		.01¾	.01⅞
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03		.02⅝		.02	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.02¾		.02¼		.01¾	.01⅞
Grade B, 76-83.9, 375 e.p., rec. 85%	.02½		.02⅛		.01¾	
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅝		.02⅛		.01⅝	.01¾
Grade C, 80-92, 375 e.p., rec. 78%	.02⅝		.02⅛		.01⅝	.01¾
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.03		.02½		.02⅛	
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅞		.02¼		.01⅞	
Grade C, 80-92, 375 e.p., rec. 78%	.02⅝		.02¼		.01⅞	
CALIFORNIA—						
75-78 375-390 endpoint	.03¾	.05	.03¼	.04¼	.03¼	.04¼
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.03¼		.02⅝	.02¾	.02¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.03		.02⅜	.02½	.02	
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅞		.02¼		.01¾	

BURNING OIL

	Aug. 4		July 28		July 21	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.01¾	.02	.01¾	.02	.01¾	.02
42-44 water white kerosene	.02	.02¼	.02	.02¼	.02	.02¼
NORTH TEXAS—						
41-43 water white kerosene	.01¾	.01⅞	.01¾	.01⅞	.01¾	.01⅞
40-41 water white kerosene	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01¾
***NORTH LOUISIANA—**						
41-43 water white kerosene	.02	.02¼	.02	.02¼	.02½	
***ARKANSAS—**						
41-43 water white kerosene	.02¼		.02¼		.02¼	.02½
PENNSYLVANIA—						
43 Kerosene prime white	.03⅝		.03⅝		.03⅝	
45 Kerosene water white	.03¼	.03⅝	.03⅝	.03¾	.03⅝	.03¾
46 Kerosene water white	.03¾	.03⅞	.03⅞	.04	.03⅞	.04
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04	.05	.04	.05½	.04	.05½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.02	.02⅛	.01⅞	.02⅛	.01¾	.02
42-44 water white kerosene	.02⅛	.02¼	.02	.02¼	.02	.02¼
GULF COAST (Export)—						
41-43 prime white	.03½		.03½		.03½	
44 prime white	.03½	.03¾	.03½	.03¾	.03½	.03¾

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Aug. 4		July 28		July 21	
OKLAHOMA (Group 3)—						
Below 18 gravity Fuel Oil, per bbl.	.20	.30	.20	.30	.20	.30
18-22 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
20-22 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
22-26 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
24-26 Fuel Oil, per bbl.	.30	.35	.30	.35	.30	.35
26-30 Fuel Oil, per bbl.	.35	.45	.35	.45	.35	.45
28-30 Fuel Oil, per bbl.	.35	.45	.35	.45	.35	.45
32-36 Gas Oil (industrial)	.00⅝	.00¾	.00⅝	.00¾	.00⅝	.00¾
32-36 Gas Oil (straw color, high cold test)	.00⅝	.00¾	.00⅝	.00¾	.00⅝	.00¾
32-36 Gas Oil (straw color, low cold test)	.01⅛	.01¼	.01⅛	.01¼	.01⅛	.01¼
36-38 Distillate	.01¼	.01⅜	0.1¼	.01⅜	.01¼	.01⅜
38-40 Straw Distillate	.01¼	.01⅜	.01¼	.01⅜	.01¼	.01½

Note—Fuel oils over 40 cold test generally 5 to 10 cents per barrel less.

NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.15	.25	.15	.25	.15	.25
24-26 Fuel Oil, per bbl.	.20	.30	.20	.30	.20	.30
32-36 Gas Oil (industrial)	.00⅝	.00¾	.00⅝	.00¾	.00⅝	.00¾
38-40 Straw Distillate	.01⅛	.01¼	.01⅛	.01¼	.01⅛	.01¼
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.50	.60	.50	.60	.50	.60
30-32 Gas Oil (low cold test)	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01¾
***ARKANSAS—**						
33-36 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
30-32 Gas Oil	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01¾
16-22 Refinery Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
GULF COAST (South Texas)—						
Gas Oil	.02⅛	.02¾	.02⅛	.02¾	.02⅛	.02¾
Bunker C Fuel (cargo lots), per bbl.	.55	.60	.55	.60	.55	.60
Bunker C Fuel (small lots)	.65		.65		.65	
PENNSYLVANIA—						
30-34 Fuel Oil	.02½		.02¼	.02½	.02¼	.02½
36-40 Fuel Oil	.02½		.02¼	.02½	.02¼	.02½
CALIFORNIA—						
42-45 480 endpoint engine distillate	.04½	.06	.04	.06	.04¼	.06
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.60	.80	.60	.80	.60	.80
15-19 Fuel Oil (cargo lots, at tidewater), bbl.	.55	.75	.55	.75	.55	.75
†15-19 Fuel Oil, f.o.b. tank cars	.45	.75	.40	.75	.40	.75
27 plus Diesel, per bbl.	.70	.95	.70	.95	.70	.95
30-34 Gas Oil	.75	1.00	.75	1.00	.75	1.00
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.17½	.25	.15	.25	.15	.25
22-26 Fuel Oil, per bbl.	.25	.30	.25	.30	.25	.30
28-30 Fuel Oil, per bbl. (zero)	.37½	.40	.35	.40	.35	.40
32-36 Gas Oil (industrial)	.00⅝	.00⅞	.00⅝	.01	.00⅝	.01
32-36 Gas Oil (zero)	.01	.01¼	.01	.01⅛	.01	.01⅛
38-40 Straw Distillate	.01⅛	.01⅜	.01	.01¼	.01	.01¼

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content.

LUBRICATING OIL AND WAX

	Aug. 4		July 28		July 21	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.04	.04½	.04	.04½	.04	.04½
100 vis., 3 color, 20-25 cold test	.03¾	.04	.03¾	.04	.03¾	.04
150 vis., 3 color, 20-25 cold test	.06¼	.06¾	.06¼	.06¾	.06¼	.06¾
150 vis., 4 color, 20-25 cold test	.05¾	.06	.05¾	.06	.05¾	.06
180 vis., 3 color, 23-28 cold test	.07½	.08	.07½	.08	.07½	.08
180 vis., 4 color, 23-28 cold test	.07¼	.07¾	.07¼	.07¾	.07¼	.07¾
180 vis., 5 color, 23-28 cold test	.07	.07¼	.07	.07¼	.07	.07¼
200 vis., 3 color, 23-28 cold test	.08½	.09	.08½	.09	.08½	.09
200 vis., 4 color, 23-28 cold test	.08¼	.08¾	.08¼	.08¾	.08¼	.08¾
200 vis., 5 color, 23-28 cold test	.07¾	.08	.07¾	.08	.07¾	.08
240 vis., 3 color, 25-30 cold test	.10½	.10¾	.10½	.10¾	.10½	.10¾
240 vis., 4 color, 25-30 cold test	.09½	.10	.09½	.10	.09½	.10
240 vis., 5 color, 25-30 cold test	.09	.09½	.09	.09½	.09	.09½
280 vis., 3 color, 25-30 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
280 vis., 4 color, 25-30 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
280 vis., 5 color, 25-30 cold test	.10¼	.10½	.10¼	.10½	.10¼	.10½
Cylinder Stocks:						
600, steam refined, light green	.04	.05½	.04	.05½	.04	.05½
600, steam refined, dark green	.02½	.03	.02½	.03	.02½	.03
190-200 vis., D color, Bright Stocks	.16		.16		.16	
150-160 vis., D color, Bright Stocks 0-10 c.t.	.12½	.13	.12½	.13	.12½	.13
150-160 vis., D color, Bright Stocks 10-25 c.t.	.12½	.12¾	.12½	.12¾	.12½	.12¾
150-160 vis., D color, Bright Stocks 25-40 c.t.	.12	.12¼	.11¾	.12¼	.12	.12½
150-160 vis., E color, Bright Stocks	.12	.12¼	.11½	.12	.11¾	.12
Waxes:						
124-126 White Crude Scale Wax	.01½	.01¾	.01½	.01¾	.01¾	.02

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½		.05½		.05½	
34 Sundebloom	.05½		.05		.05	
36 Miners' Neutral	.05½		.05½		.05½	
150, 3 color	.15	.15½	.15	.15½	.15	.15½
180, 3 color	.16	.17½	.18	.18½	.18	.18½
200, 3 color	.19	.20	.20	.21	.20	.21½
220, 3 color	.21½	.26½	.23	.26½	.23	.26½
600, steam refined	.10	.11	.08½	.09	.08½	.09
650, steam refined	.11½	.12½	.11		.11	
600, Pennsylvania Flash	.12½	.13½	.11½	.12½	.11½	.12
600, E filtered	.13	.14	.11	.12	.11	.11½
600, D filtered, Oil City	.17		.16		.16	
Pennsylvania Bright Stocks below 35 c.t.	.24	.25	.20	.21	.18½	.19
Pennsylvania Bright Stocks above 35 c.t.	.24		.19	.20	.18	
*122-124 White Crude Scale Wax	.02		.02	.02½	.02	.02⅛
*124-126 White Crude Scale Wax	.02		.02⅛	.02¼	.02	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.05¾	.05½	.05¾	.05½	.05¾	.05½
200 vis., 3 color, pale oil	.07⅜	.07⅝	.07⅜	.07⅝	.07⅜	.07⅝
300 vis., 3 color, pale oil	.08⅝	.08⅞	.08⅝	.08⅞	.08⅝	.08⅞
500 vis., 3½ color, pale oil	.09⅞	.10⅛	.09⅞	.10⅛	.09⅞	.10⅛
750 vis., 3½ color, pale oil	.11⅜	.11⅞	.11⅜	.11⅞	.11⅜	.11⅞
1,200 vis., 3½ color, pale oil	.13¾	.14⅜	.13¾	.14⅜	.13¾	.14⅜
2,000 vis., 4 color, pale oil	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
200 vis., 5-6 color, red oil	.06⅝	.06⅞	.06⅝	.06⅞	.06⅝	.06⅞
300 vis., 5-6 color, red oil	.07⅞	.08⅛	.07⅞	.08⅛	.07⅞	.08⅛
500 vis., 5-6 color, red oil	.09⅜	.09⅝	.09⅜	.09⅝	.09⅜	.09⅝
1,200 vis., 5-6 color, red oil	.12⅞	.13⅜	.12⅞	.13⅜	.12⅞	.13⅜
2,000 vis., 6 plus color	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

CALIFORNIA—						
130 vis., 2½-3 color	.08	.08½	.08	.08½	.08	.08½
200 vis., 2½-3 color	.09	.10	.09	.10	.09	.10
300 vis., 3-3½ color	.10	.11	.10	.11	.10	.11
350 vis., 3½-4 color	.11	.12	.11	.12	.11	.12
450 vis., 3½-4 color	.12	.12½	.12	.12½	.12	.12½
550 vis., 3½-4 color	.12½	.13¼	.12¼	.13¼	.12¼	.13¼
Red Neutral:						
200 vis., 4½-5 color	.09½	.10	.09½	.10	.09½	.10
300 vis., 5-6 color	.11	.12	.11	.12	.11	.12
500 vis., 4½-5 color	.12¼	.13	.12¼	.13	.12¼	.13
600 vis., 6½ plus color	.13	.13½	.13	.13½	.13	.13½
700 vis., 6½ plus color	.14	.15	.14	.15	.14	.15

Note—Bright Stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Aug. 4		July 28		July 21	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.05½	.05¾	.05½	.05¾	.05½	.05¾
Kerosene, water white, 41-43	.04¾		.04¾		.04¾	
*Fuel Oil, Bunker "C," 41-43	.75		.80		.80	
†Fuel Oil, Diesel, 28-30, per bbl.	1.45		1.50		1.50	
Gas Oil, 28 gravity plus	.04		.04		.04	
25 pale Paraffin Oil, tank car	.10¼		.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.04		.04		.04	
Refined Wax:						
120-122 a.m.p., per lb.	.03		.02⅞		.02⅞	
125-127 a.m.p., per lb.	.03⅛		.03		.03	
130-132 a.m.p., per lb.	.03⅝		.03⅛		.03⅛	
133-135 a.m.p., per lb.	.04⅛		.04		.04	
135-137 a.m.p., per lb.	.04⅜		.04½		.04½	
Petrolatum in barrels in carload lots, per pound:						
Dark Green	.01⅝		.01⅝		.01⅝	
Amber	.02⅝		.02⅝		.02⅝	
Extra Amber	.02⅞		.02⅞		.02⅞	
Cream	.05⅝		.05⅝		.05⅝	
Lily White	.06½		.06½		.06½	
Snow White	.07		.07		.07	

*Lighterage 5 cents a barrel extra. †Lighterage 6.5 cents a barrel.

NEW YORK (BAYONNE) EXPORT PRICES

	Aug. 4		July 28		July 21	
600, steam refined cylinder stocks, in bbls.	.17½	.18	.15½	.16	.15½	.16
635, steam refined	.19	.20	.16	.16½	.16	.16½
650, steam refined	.20	.21	.18	.18½	.18	.18½
600, Pennsylvania Flash	.22	.23	.19½	.20	.19½	.20
630, Pennsylvania Flash	.27¾	.28	.25¾	.26½	.25¾	.26
600, Warren E	.22	.23	.19	.20	.19	.20
600, Oil City E	.21	.22	.18	.18½	.18	.18½
Light 140-150 Bright Stocks	.30	.33	.24¼	.24½	.24¼	.24½
Dark 140-150 Bright Stocks	.29	.31	.23½	.24	.23½	.24

LOS ANGELES EXPORT PRICES

	Aug. 4		July 28		July 21	
Kerosene, water white	.03½	.05½	.03½	.05½	.03½	.05½
*U. S. Motor gasoline, 53-55, 437 e.p.	.04	.05	.04½	.06	.05	.06½
*58-60, 400 endpoint gasoline	.04¼	.05¼	.05	.06	.05½	.06½

*For coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Kansas, Oklahoma and North Texas (July 22, 1931)§ ..... .40
Oklahoma (July 27, 1931)§ ..... .50
East Texas (July. 17, 1931)‡ ..... .15
Rusk County, Tex. (April 6, 1931)* ..... .25
Corsicana heavy (June 3, 1931)† ..... .22
Other fields ..... See gravity table

*Posted by Panola Pipe Line Co. †Posted by Magnolia Petroleum Co., June 20; Stanolind Oil & Gas Co., June 25. ‡Posted by Magnolia Petroleum Co. §Posted by Tidal Western Oil Co. ¶Posted by Continental Oil Co. ‖Sinclair Refining Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties. See gravity table

WEST TEXAS

Iatan and Westbrook. Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* ..... $ .25
Lea County, N. Mex.* ..... .25

*The Texas Company, July 23, 1931. All other companies, July 24.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective August 3, 1931)

Penna Grade Oil in National Transit Lines (Pennsylvania) $1.70
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.55
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.45
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) 1.30
Corning Grade Oil in Buckeye Pipe Line Co.'s Line ..... .65
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 16, 1931) ..... .80
Wayne district Oil in Cumberland Pipe Lines (April 21, 1931) 1.17

Tide Water Pipe Co.
(Effective July 11, 1931)

Bradford, Pa., crude $1.95
Allegany, N. Y., crude 1.95

Pure Oil Co.
(Effective July 11, 1931)

Cabin Creek, W. Va. $1.45
Kelly's Creek, W. Va. 1.45
Bradford Hollow, W. Va. 1.45

GULF COAST

Grade A and Grade B classifications discontinued by all companies excepting Sun Pipe Line Co., which pays 40 cents for Grade A and Humble Oil & Refining gravity prices for Grade B, effective July 24 .... See gravity table
Jennings, La. (July 13, 1931)* ..... $ .30
Lockport, La. (July 8, 1931)† ..... See Gulf Coast gravity table
Refugio light ..... See gravity table
Refugio heavy (July 24, 1931)‡ ..... .44
Markham (July 28, 1931)§ ..... .37
High Island (July 24, 1931)¶ ..... .35

*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. Other companies July 24. ¶Gulf Pipe Line Co.

NORTH LOUISIANA-ARKANSAS

Smackover, Ark. (all grades) (June 3, 1931)* ..... $ .37
Smackover, Ark. (all grades) (June 2, 1931)† ..... .30
Smackover (all grades) (July 24, 1931)‡ ..... .30
Urbana (July 24, 1931)‡ ..... .20
Bellevue, La. (June 3, 1931) ..... .25
Urania (June 3, 1931) ..... .30
Calion, Ark., heavy (June 3, 1931) ..... .37
East El Dorado, Ark. (June 3, 1931) ..... .25
Stephens, Ark. (June 3, 1931) ..... .20
Other fields ..... See gravity table

*Posted by The Texas Company on June

(Continued on Page 102)

CRUDE OIL GRAVITY TABLE

	Oklahoma, Kansas, North Central and East Central Texas	Oklahoma, Kansas, North Central and East Central Texas	Oklahoma, North Central Texas, North Louisiana	North Louisiana and Arkansas	Salt Creek, Wyoming	Gulf Coast
	1	2	3	4	5	6
Below 25 degrees	....	....	....	....	....	$0.40
25-25.9 degrees	....	....	....	....	....	.41
26-26.9 degrees	....	....	....	....	....	.42
27-27.9 degrees	....	....	....	....	....	.43
Below 28 degrees	....	$0.27	....	....	....	....
28-28.9 degrees	....	.30	....	....	....	.44
Below 29 degrees	$0.30	....	....	$0.30	$0.30	....
29-29.9 degrees	.31	.31	....	.31	.31	.45
30-30.9 degrees	.32	.32	....	.32	.32	.46
31-31.9 degrees	.33	.33	....	.33	.33	.47
32-32.9 degrees	.34	.34	....	.34	.34	.48
33-33.9 degrees	.35	.35	....	.35	.35	.49
34-34.9 degrees	.36	.36	....	.36	.36	.50
35-35.9 degrees	.37	.37	....	.37	.37	.51
Below 36 degrees	....	....	$0.35	....	....	....
36 degrees and above	....	....	.40	....	....	....
36-36.9 degrees	.38	.38	....	.38	.38	.51
37-37.9 degrees	.39	.39	....	.39	.39	.51
38-38.9 degrees	.40	.40	....	.40	.39	.51
39-39.9 degrees	.41	.41	....	.41	.39	.51
40 degrees and above	.42	.42	....	.42	.39	.51

Note.—On July 22, 1931, the Magnolia Petroleum Co. posted North Central crude oil, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden, at 40 cents per barrel; Oklahoma, including Cushing, Yale, Oklahoma City, Morrison, Wewoka and Seminole, 40 cents per barrel; and withdrew its posted price in Kansas, which included Augusta only. On July 24 the Magnolia company posted Mexia, Wortham, Corsicana light, Panola and Lytton Springs and Thrall, all in Texas, 40 cents per barrel. On July 30 the Magnolia posted Bull Bayou, La., 40 cents per barrel; Haynesville, La., 32 cents; Pine Island, La., 36 cents; Cotton Valley, La., 30 cents; El Dorado, Ark., 31 cents; Rainbow, Ark., 31 cents; El Dorado east field, 30 cents; Smackover district, 30 cents. It made no announcement of change in Gray County, Texas Panhandle, in which, since June 20, it has paid 30 cents; Carson or Hutchinson County, which remains at 27 cents; or in North Louisiana, where it pays 36 cents in Bull Bayou, 27 cents in Haynesville, 32 cents in Pine Island, 25 cents in Cotton Valley, and 25 cents in Smackover and Rainbow, Arkansas.

Column 1—Stanolind Crude Oil Purchasing Co., July 24, 1931, followed on same day by Tidal Refining Co., Continental Oil Co. and Kanotex Refining Co.

Column 2—Carter Oil Co., July 24, followed by Barnsdall Oil Co., Pure Oil Co., Gypsy Oil Co., Mid-Continent Petroleum Corp., Empire Oil & Refining Co., Skelly Oil Co. (in Kansas), Vickers Petroleum Co. (Kansas), Derby Oil & Refining Co. (Kansas).

Column 3—The Texas Company, July 23, 1931; Humble Oil & Refining Co. and Gulf Pipe Line Co., July 24, in North Central Texas and East Central Texas.

Column 4—Standard Oil Co. of Louisiana on July 24, 1931; Louisiana Oil & Refining Co., Gulf Refining Co. of Louisiana, Spartan Refining Co. on July 25.

Column 5—Mid West Refining Co., July 24.

Column 6—The Humble Oil & Refining Co., July 24; Gulf Pipe Line Co., Sinclair Refining Co., July 24; The Texas Company, July 28, but Texas pays 52 cents for 36-36.9; 53 cents for 37-37.9; 54 cents for 38-38.9; 55 cents for 39-39.9 and 56 cents for 40 and above.

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) for allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931, at 7 a. m.

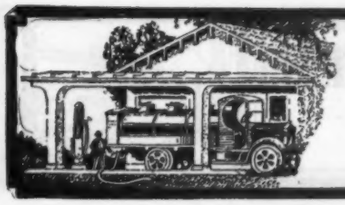
Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	...	$.55	$.55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.66	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$.65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	....	.76	....	....	.71	.65	.66	.66
27-27.9	.76	.75	.76	....	.78	....	....	.73	.68	.68	.67
28-28.9	.77	....	....	....	.80	....	....	.75	.71	.71	.69
29-29.9	.79	....	....	....	....	....	....	.77	.73	.74	.71
30-30.9	.81	....	....	....	....	....	....	.79	.75	.76	.72
31-31.9	....	....	....	....	....	....	....	....	.78	....	....
32-32.9	....	....	....	....	....	....	....	....	.80	....	....
33-33.9	....	....	....	....	....	....	....	....	.83	....	....
34-34.9	....	....	....	....	....	....	....	....	.85	....	....
35-35.9	....	....	....	....	....	....	....	....	.87	....	....

Standard Oil Co. of California prices in other fields:
Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).
Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.
Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).
Montebello—65 cents for all grades (14° to 25.9°).
Whittier and LaHabra—65 cents for all grades (14° to 22.9°).
Elwood Terrace, f.o.b. ship—32° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above 87 cents.
Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices, effective June 20, are as follows:
Ventura Avenue, 32 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.
Kettleman Hills, 30 gravity and above, 66 cents.
Potrero, 24 gravity, 69 cents with 2 cents added for each degree upward to 34 gravity, which is 69 cents.

(Continued on Page 107)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns August 4

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago	14.0	14.0	3.0	9.0
Decatur, Ill.	14.4	14.4	3.0	9.0
E. St. Louis	13.7	13.7	3.0	8.2
Joliet	14.4	14.4	3.0	9.0
Peoria	14.4	14.4	3.0	9.0
Quincy	14.2	14.2	3.0	8.8
Davenport, Ia.	14.5	14.5	3.0	9.3
Des Moines	14.5	14.5	3.0	9.3
Keokuk	14.5	14.5	3.0	9.3
Sioux City	14.1	14.1	3.0	8.9
Duluth, Minn.	15.5	15.5	3.0	9.9
Mankato	15.1	15.1	3.0	9.7
Minneapolis	15.3	15.3	3.0	9.9
La Crosse, Wis.	16.2	16.2	4.0	10.0
Milwaukee	15.1	15.1	4.0	8.9
Madison	15.3	15.3	4.0	9.1
Detroit, Mich.	10.2	10.2	3.0	10.7
Grand Rapids	14.7	14.7	3.0	10.6
Saginaw	14.9	14.9	3.0	10.8
Evansville, Ind.	15.1	15.1	4.0	9.9
Indianapolis	15.3	15.3	4.0	10.1
South Bend	15.4	15.4	4.0	10.2
Fargo, N. D.	16.9	16.9	3.0	11.9
Huron, S. D.	16.3	16.3	4.0	10.7
Sioux Falls	15.8	15.8	4.0	10.4
K. C., Mo.	13.9	13.9	3.0	7.6
Springfield*	13.9	13.9	3.0	8.5
St. Louis*	13.9	13.9	3.5	8.9
St. Joseph	13.5	13.5	3.0	7.5
Wichita, Kans.	13.8	13.8	3.0	7.8
Bartlesville, Okla.	13.0	16.0	5.0	7.5

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 2 cents or more below the price on the regular grade.

Effective April 15—Discounts on Q.D.A. on 1,000 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2¼ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price.

Discount in Chicago division on 1,000 gallons or more per month: Red Crown Ethyl Gasoline, 4 cents off tank wagon price; Red Crown gasoline, 2¼ cents off tank wagon price; Stanolind Blue gasoline, 2 cents off tank wagon price.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	13.0	14.0	4.0	8.0
Fort Worth	11.0	13.0	4.0	8.0
Houston	11.0	13.0	4.0	11.0
San Antonio	11.0	13.0	4.0	10.0
El Paso	12.0	14.0	4.0	12.0
Texarkana	16.0	16.0	4.0	11.0
Muskogee, Okla.	12.0	14.0	5.0	8.0
Okla. City	12.0	14.0	5.0	7 0
Tulsa	13.0	14.0	5.0	8.0
Ft. Smith, Ark.	14.0	14.0	5.0	11.0
Little Rock	15.5	16.0	6.0	11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	15.25	16.25	4.0	9.25
McCook	16.0	17.75	4.0	10.75
Norfolk	16.75	16.75	4.0	9.75
N. Platte	16.75	17.75	4.0	10.50
Scottsbluff	16.0	16.0	4.0	10.25

Note—Dealers' discounts allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2¼ cents off normal station price; Red Crown, 2¼ cents off normal service station price; Nebraska Blue (third grade) 1-cent off normal service station price.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	16.6	17.6	2.8	15.6
New York*	15.3	15.3	2.9	14.3
Buffalo	15.3	15.3	2.9	14.3
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.3	16.3	2.0	14.3
Boston, Mass.	16.5	16.5	3.9	13.5
Augusta, Me.	15.8	15.8	4.0	14.8
Manch'tr, N. H.	15.4	15.4	4.0	14.0
Bulrington, Vt.	19.3	19.3	4.9	15.3

*Prices in steel barrels.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	*11.0	*11.0	...	11.0
Philadelphia	*11.0	*11.0	...	11.0
Scranton	*11.0	*11.0	...	11.0
Allentown	*11.0	*11.0	...	11.0
Altoona	*11.0	*11.0	...	11.0
Erie	*11.0	*11.0	...	11.0
Dover, Del.	14.0	14.0	3.0	11.0
Wilmington	14.0	14.0	3.0	11.0
Springf'd, Mass.	15.5	16.0	3.0	10.0
Fall River	15.0	16.0	3.0	11.0
Worcester	15.3	16.0	3.0	11.0
Boston	14.5	15.0	3.0	11.0
Providence, R.I.	12.5	13.0	3.0	10.0
Hartford, Conn.	14.5	15.5	3.0	10.0
New Haven	14.6	15.5	3.0	10.0

*Does not include tax of 3 cents in Pennsylvania. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The above prices are subject to discounts to dealers and to commercial accounts under contract for one year in accordance with Code of Ethics.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.	14.5	14.5	6.0	12.0
Baton Rouge	14.5	15.5	5.0	12.0
Alexandria†	15.5	16.5	6.0	12.0
Lafayette*	15.5	16.5	6.0	12.0
Lake Charles*	15.5	16.5	6.0	12.0
Shreveport	14.5	15.5	5.0	12.0
Knoxville, Tenn.	18.0	19.0	6.0	13.5
Memphis	14.0	15.0	6.0	10.0
Chattanooga	17.5	18.5	6.0	12.0
Nashville	17.0	18.0	6.0	12.5
Bristol	17.0	18.0	6.0	14.0
Lt. Rock, Ark.	15.5	16.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points	15.0	16.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13.0 cents.

PACIFIC COAST TERRITORY

	Gasoline			Kero.
	Wh'l's'e price	Retail* price	Incl'ds tax	tank wagon
Fresno	19.5	16.5	3.0	17.0
San Francisco	19.5	16.5	3.0	15.5
Los Angeles	19.0	16.0	3.0	15.5
Reno, Nev.	22.5	20.5	4.0	19.0
Portland, Ore.	21.0	18.0	4.0	16.5
Seattle, Wash.	22.0	19.0	5.0	16.5
Tacoma	23.0	19.0	5.0	16.5
Spokane	25.5	22.5	5.0	20.5
Phoenix, Ariz.	15.5	17.5	5.0	30.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 3 cents plus a 2-cent special temporary discount subject to withdrawal at any time.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	14.0	17.0	4.0	13.5
Pueblo	14.0	17.0	4.0	13.0
Grand Junction	13.0	16.0	4.0	14 5
Casper, Wyo.	15.0	18.0	4.0	10.0
Cheyenne	16.0	19.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.0
Billings	20.0	23.0	5.0	14.5
Great Falls	20.0	23.0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N.M.*	17.0	20.0	6.0	14.0
Boise, Idaho	18.0	21.0	5.0	18.0
Twin Falls	17.0	20.0	5.0	18.0

*One-cent excise city tax.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atl'tic City, N.J.	12.7	13.7	3.0	10.5
Newark	12.7	13.7	3.0	9.5
Annapolis, Md.	14.2	15.2	4.0	10.0
Baltimore	13.4	14.4	4.0	8.5
Cumberland	15.2	16.2	4.0	11.0
Wash'ton, D.C.	11.9	12.9	2.0	9.7
Danville, Va.	16.0	17.0	5.0	10.8
Norfolk	14.5	15.5	5.0	9.3
Petersburg	15.5	16.5	5.0	10.3
Richmond	14.9	15.9	5.0	9.7
Roanoke	16.2	17.2	5.0	11.0
Charles'n, W.Va.	14.7	15.7	4.0	10.5
Keyser	16.3	16.3	4.0	11.1
Parkersburg	13.4	14.4	4.0	9.2
Wheeling	14.6	15.6	4.0	10.4
Charlotte, N. C.	17.5	18.5	6.0	11.3
Hickory	17.8	18.8	6.0	11.6
Mt. Airy	17.7	18.7	6.0	11.5
Raleigh	17.4	18.4	6.0	11.2
Salisbury	17.7	18.7	6.0	11.5
Charleston, S.C.	15.5	16.5	6.0	9.3
Columbia	17.4	18.4	6.0	11.3

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers, except in Washington, D. C. and in States of New Jersey and Maryland where discount is 3 cents.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	14.0	16.0	6.0	12.5
Augusta	18.0	20.0	6.0	14.0
Macon	16.0	18.0	6.0	12.0
Savannah	16.0	16.0	6.0	12.0
Birm'ham, Ala.	15.0	15.0	5.0	13.0
Mobile	17.0	17.0	4.0	10.0
Montgomery	17.0	17.0	4.0	13.5
Clarke'le, Miss.	18.0	20.0	6.0	13.5
Jack'ville, Fla.	18.0	19.0	7.0	13.0
Natchez	18.0	20.0	5.0	13.5
Gulfport	16.0	16.0	5.0	13.5
Vicksburg	14.5	15.5	5.0	11.5
Jack'ville, Fla.	17.0	18.0	6.0	12.0
Miami	19.0	21.0	7.0	13.0
Pensacola	19.0	20.0	7.0	13.0
Tampa	18.0	19.0	7.0	12.0
Lexington, Ky.	17.0	18.0	5.0	13.0
Covington	16.0	17.0	5.0	11.0
Louisville	16.0	17.0	5.0	11.0
Ashland	17.0	19.0	5.0	13.0
Paducah	17.0	17.0	5.0	11.0
Bowling Green	19.0	21.0	5.0	14.5
Corbin	18.0	19.0	5.0	15.0

A third grade, "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery, Birmingham and Mobile state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	12.0	8.0
V.M.&P. naphtha	14.0	9.5
Cleaners' naphtha	16.2	11.0
Stanisol	16.2	11.0

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

All dumps of 50 gallons or more $0.07

Note—Outside Chicago furnace oils discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

TANK WAGON CHANGES

Standard Oil Co. of Ohio reduced the gasoline tank wagon and station prices 1 cent in Cleveland and vicinity but retained the same price structure of 15 cents and 16 cents in the balance of the State.

Standard Oil Co. of California advanced the gasoline wholesale and retail prices in Spokane, Wash., to 25.5 and 22.5 cents, respectively.

Standard Oil Co. of Kentucky reduced

(Continued on Page 110)

CRUDE OIL PRICE CHANGES

The Texas Company, on July 28, adopted the Humble Oil & Refining Co.'s Gulf Coast price schedule up to and including 35 degrees at 51 cents, but post-

(Continued on Page 111)

CRUDE OIL PRICES

(Continued from Page 101)

2, 1931, and by Gulf Refining Co. on June 3. †Posted by Magnolia Petroleum Co. on June 3. ‡Posted by Standard Oil Co. of Louisiana July 24, 1931. Bellevue posted by Magnolia Petroleum Co., Standard Oil Co. of Louisiana having ceased posting on July 11, 1931. Urania by Louisiana Oil Refining Co. Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co. Stephens posted by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (July 23, 1931)	$ .37
Luling (June 3, 1931)†	.35
Mirando (July 21, 1931)	.44
Pettus (July 23, 1931)‡	.50
Salt Flat (July 23, 1931)‡	.37
Thrall§	
Lytton Springs (Lockhart) See gravity table	
Dobrowolski§	
Same as Mid-Continent gravity scale up to and including 38-38.9°	
Somerset¶	
Same as Mid-Continent gravity scale up to and including 38-38.9°	

‡The Texas Company, July 23; Gulf Pipe Line Co. and Humble Oil & Refining Co., July 24. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products Co. ‖Pioneer Oil & Refining Co. In Mirando Magnolia Petroleum Co. posted July 21, The Texas Company July 23, Humble Oil & Refining Co. and Gulf Pipe Line Co. July 24.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles (July 24, 1931)	$ .45
Fort Collins (July 24, 1931)	.35
Florence (July 24, 1931)	.32
Wellington (July 24, 1931)	.30
Dutton Creek (July 24, 1931)	.45
Rock Creek, Wyo. (July 25, 1931)	.50
Frannie, light (July 24, 1931)	.40
Frannie, heavy (July 24, 1931)	.30
Salt Creek.....Mid-Continent gravity table	
Big Muddy (July 25, 1931)	.45
Grass Creek (July 25, 1931)	.65
Elk Basin (July 25, 1931)	.65
Lance Creek (July 25, 1931)	.50
Poison Spider (Mar. 5, 1931)	.70
Notches (Mar. 14, 1927)	.65
Hudson (June 2, 1931)	.65
Lander (Mar. 5, 1931)	.65
Rex Lake (Feb. 22, 1930)	1.10
Osage (Apr. 15, 1931)	.98
Lost Soldier (July 24, 1931)	.30
Hamilton Dome (Mar. 14, 1927)	.85
Greybull (July 24, 1931)	.65
Torchlight (Oct. 28, 1930)	1.35
Cat Creek (July 25, 1931)	.65
Pondera (July 25, 1931)	.70
Sunburst, Mont. (July 25, 1931)	.70
Hogback, N. Mex. (July 24, 1931)	.72
Artesia, N. Mex. (July 24, 1931)	.25
Lea County, N. Mex. (July 24, 1931)	.25
Border, Mont.	1.25
Red Coulee, Alberta	1.35
Dry Creek, Mont. (July 24, 1931)	.60
Maljamar (July 22, 1931)	.30
Jackson (July 23, 1931)	.25

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Ohio Oil Co. ceased posting Artesia on March 5, 1931. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by the Continental Oil Co. Osage posted by Arro Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective July 24, 1931)

Lima	$ .70
Wooster	.73
Illinois	.65
Indiana	.55
Princeton	.55
Plymouth	Shut in
Western Kentucky	.50
Midland, Mich.* (July 24, 1931)	.55
Dundee, Mich.†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale	
Upper and Lower Traverse Sands, Mich.†	
....Same as Mid-Continent gravity scale	
Somerset, Ky. (July 24, 1931)	.55
Oil City, Ky. (July 27, 1931)§	.50
Petrolia (Canada) (July 24, 1931)¶	1.75
Oil Springs (Canada) (July 24, 1931)¶	1.52

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. §Posted by Imperial Oil Ltd. Somerset, Ky., crude purchased by Ashland Refining, Ashland, Ky., and delivered through Cumberland Pipe Line.

MEXICAN CRUDE

Panuco*	$ .44

*F.o.b. ship, based on June transactions and exclusive of taxes and bar dues.

Of Interest to Sales Departments

Ford Performance Improved by High Compression Fuel

A report of tests with Ethyl Gasoline made in Detroit on Model "A" Fords equipped with high and low compression heads discloses an increase of approximately 11 per cent in accelerating ability, and a top speed increase of 5 miles per hour, maximum being 68. An improvement in hill-climbing ability and in gasoline mileage is also revealed. This improved performance over the standard head is regarded as "phenomenal" by the conductors of the test.

The Ford Motor Co. is now manufacturing high compression cylinder heads at the rate of 700 per day and is installing them in new cars on special order. This represents about 20 per cent of Ford production. Public demand has become so great that some agencies are days behind on orders.

The tests included measurements of acceleration, hill-climbing ability, top speed and gasoline mileages. With the standard compression head, the top speed was reached at 63 miles per hour, and with the high compression head at 68 miles per hour. An increase in accelerating abilty from 10 to 30 miles per hour approximated 11 per cent over the standard head, and from 10 to 50 miles per hour an increase of more than 14 per cent was achieved.

"In the gasoline mileage tests," the report explains, "the miles per gallon with the standard head range between 23½ at 10 miles per hour to slightly less than 17 at 50 miles per hour. With the high compression head the mileages range between slightly less than 25 at 10 miles per hour to about 18½ at 50.

"These tests were made with the car in high gear while operating at constant speed, and it should be remembered that during ordinary operation a considerably greater increase results from high compression because of the fact that with the high compression head the car very often is operated in high gear when it would be necessary to shift to a lower gear with the standard head. Gasoline mileage is always considerably greater in high than in a lower gear."

Tests were also made to determine the proper spark advance for each of the two cylinder heads. "It is a rather common belief that the spark should be advanced as far as is possible without causing the engine to knock, but," the report points out, "there is a certain definite spark advance at which engines produce their maximum performance, and any deviation from this position results in a substantial loss in performance.

"With the standard head it was found that the correct spark advance is slightly less than 28 degrees, which is approximately that recommended for Model 'A' cars having the standard compression cylinder heads. Variations in maximum power spark advance of a few degrees one way or the other are quite likely to occur in different engines, so that this test should not be considered as disagreeing with the recommended advance of 30 degrees.

"With the high compression cylinder head it was found that the proper spark advance is 15 degrees, and that changing the spark from this position resulted in a considerable increase in amount of time required to climb the test hill. It is recommended, therefore, that the spark be reset to 15 degrees advance on all Model 'A' Fords having the new high compression cylinder head."

STANDARD PREPARES TO BUILD LARGE STATION

WASHINGTON, D. C., Aug. 3.—Specifications for the Standard Oil Co. (New Jersey) building to be erected on a conspicuous site near the capitol have been submitted to District of Columbia authorities for approval with application for a permit to begin the work of construction. The new building will be on the land now owned by the Standard on which a modest office and service station building has been located for several years. It is to be replaced by a palatial marble structure six stories in height with a complete oil service station and 186 rooms for office purposes above the first floor. The building will cost $1,000,000.—C. E. K.

AWARD CONTRACT TO SINCLAIR

The Sinclair Refining Co. has been awarded the contract for furnishing the Texas highway department and various other state departments and institutions with approximately 5,000,000 gallons of gasoline and 420,000 quarts of lubricating oil during the fiscal year beginning September 1. The company bid 3⅛ cents a gallon below the retail gasoline prices on bulk delivery and 2⅛ cents a gallon below retail prices on delivery through filling stations. Its low bid for lubricating oils was 20 cents per quart through retail stations. The company also received the contract for furnishing kerosene and tractor fuel in quantities to be determined as needed.

OPPOSE OIL TARIFF

NEW YORK, Aug. 3.—Directors of the American Oil Burner Association have gone on record in opposition to any tariff or embargo on imports of crude or products. A tariff or embargo, the directors declared, would not in any way tend to curb the wasteful overproduction of petroleum in domestic fields and would actually encourage increased production and contribute to the problems of the oil industry.

Conservation of American oil resources, the directors added, would be best served by calling first on foreign supplies. Record sales of oil burners during the first half of 1931 are reported by a number of leading manufacturers, the increases ranging from slight gains over last year and in some instances more than 100 per cent in excess of the first half of 1929, the record year in the industry.

WILL LOWER INTERSTATE RAIL RATES TO MONTANA

WASHINGTON, D. C., Aug. 4.—Petroleum refiners in Wyoming have been upheld in their contention before the Interstate Commerce Commission, claiming that discrimination existed between interstate shipments of petroleum and its products from Wyoming to Montana and the intrastate shipments in Montana.

"It appears," the commission says, "that the lower level of the intrastate rates is restricting the movement of refined products under the assailed rates from Wyoming to Montana. The record demonstrates that the reduced Montana rates diverted and are diverting considerable traffic from complainants' Wyoming refiners to their competitors in Montana."

A mileage scale of rates ordered by the commission will result in lowering the interstate rates and increasing the intrastate rates so as to remove the prejudice and preference that has been found.—C. E. K.

GASOLINE SUBSTITUTE

WASHINGTON, D. C., Aug. 3.—The completion of the coal tar oil product which is a satisfactory substitute for gasoline for use in internal combustion engines has been accomplished by the Belfast (Ireland) Gas Works, according to Consul Leonard N. Green of Belfast. It is claimed that the gas department will be able to produce about 500,000 gallons of this substitute annually and the cost will be considerably less than the present price of gasoline.

Some alteration in the motor to fit it for the use of this oil is necessary and the engine must be run between 50 and 100 yards on gasoline or benzol before it can be switched to the new fuel. However, it is said that this new fuel ran a bus 12 miles to the gallon compared with 8 miles on a gallon of gasoline.—C. E. K.

HEADS DIXIE JOBBERS

J. W. Gehrken, of Monroe Co-operative Oil Co., Monroe, Mich., has been named to succeed L. V. White, of L. V. White Co., Kalamazoo, as president of Dixie Distributors, Inc., a group of independent oil jobbers organized in Michigan seven years ago by Mr. White, who is resigning to devote all of his time to L. V. White Co. interests.

STATE GASOLINE TAXES

Florida tax of 7 cents per gallon became effective August 1. Map prepared by Western Petroleum Refiners Association.

Both Imports and Exports Show Loss First Six Months

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 3.—A drop of more than 50 per cent in the importation of petroleum and products during June, 1931, when the quantity was 6,816,072 bbls., compared with 14,002,376 bbls. in June, 1930, was the outstanding feature of the monthly Summary of Exports and Imports prepared by the Department of Commerce.

During the same periods exports of petroleum and products dropped from 51,048,531 bbls. in June, 1930, to 21,293,203 bbls. in June, 1931.

In other words, while there was a decrease of 6,816,072 bbls. of petroleum and products imported compared with the same month of the previous year, exports of the same products dropped 29,755,328 bbls.

Imports of petroleum and products during the six-month periods ending June dropped from 72,600,019 bbls. in 1930 to 52,858,545 bbls. in 1931.

The exports dropped in the same six-month periods from 270,196,189 bbls. in 1930 to 147,544,295 bbls. in 1931.

There was a great decrease in the importation of gasoline, naphtha and other finished light products, the quantity imported in June, 1930, being 1,670,374 bbls. valued at $6,103,952, dropping to 964,022 bbls. valued at $2,551,332 in June, 1931.

Crude petroleum imported in June, 1930, amounted to 5,766,565 bbls. valued at $5,859,791, dropping to 3,978,381 bbls. valued at $3,060,198 in June, 1931, the valuations placed upon the June imports showing no sensational decrease as took place in values in the Southwest.

During the six-month period ending with June imports of crude amounted to 31,129,328 bbls. valued at $32,946,351, compared with 25,509,166 bbls. valued at $23,928,801 in June, 1931.

The largest importation of crude in June from any country was from Venezuela, 1,744,733 bbls. valued at $1,300,777, a decrease from 2,597,225 bbls. imported in June, 1930. From Mexico, 1,300,188 bbls. of crude were received in June, compared with 1,189,969 bbls. in the previous June from Colombia, 611,000 bbls. were imported in June, a decrease from 1,144,000 bbls. imported in June, 1930. From the Netherlands West Indies the imports of crude amounted to 198,396 bbls., a decrease from 724,634 in June, 1930.

Of advanced and refined oils, 2,383,542 bbls. were imported in June, a decrease from 4,021,747 bbls. imported in June, 1930.

Topped, including fuel oil, imported in June aggregated 1,412,274 bbls., a decrease from 2,287,216 bbls. in June, 1930. The larger part of this product was from the Netherlands West Indies, whence came 1,284,183 bbls. in June compared with 1,882,261 bbls. in June, 1930.

Most of the imported gasoline came from the Netherland West Indies. Of the 2,551,332 bbls. imported in June, 2,351,840 bbls. came from that source.

Imports of paraffin in June aggregated 3,508,792 pounds, or more than double the 1,521,543 pounds that came in June, 1930.

Exports of crude petroleum were 2,543,679 bbls., a slight increase over the previous June when the imports were 2,507,375 bbls. Most of these exports went to Canada, which took 1,900,899 bbls. Japan was the second largest importer of crude from the United States, the quantity in June being 337,960 bbls.

Refined oils exported in June amounted

(Continued on Page 110)

Financial Position of Industry Is Better

Conditions During Remainder of Year and 1932 Expected to Show Continual Improvement. Higher Inventory Values

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 3.—With selling prices for crude and products both definitely on the mend, and advances already scored having added millions of dollars to inventory values of the industry, eastern oil men and financial interests here as well believe that the petroleum industry has weathered the worst of the storm, and that conditions during the remainder of the year and during 1932 will show continual improvement.

The financial position of the industry has been substantially improved by recent price advances, and with further increases in both crude and refined products looked for in the near future, further strengthening in the fiscal position of oil companies in general is looked for.

While the oil business has passed through a period of unprecedented depression, many oil men believe that never before has it been in sounder position for real recovery. Current inventories of crude petroleum and refined products are carried on the books at the lowest price levels in the history of the trade, in many cases, and every advance, however small, in prices for either crude or products adds just that much more to inventory values and assets behind the securities of oil companies.

Producing, refining and marketing operations, with few exceptions, have been carried on either at a direct loss, or at uneconomical margins in recent months. The flood of low-priced crude, and the resultant oversupply of cheap gasoline and other products, has had a tendency to take the market out of the hands of even the largest companies, and has compelled the rank and file of the industry to float along with the tide, meeting competition wherever and whenever it developed, selling frequently at direct losses in order to hold established outlets against the inroads of temporarily low-priced materials from new sources.

Whereas the trend in gasoline marketing during recent years has been steadily toward an improvment in quality, competitive conditions during the past year have in some instances caused marketers to subordinate quality to price, and hence the advent of the so-called "third grade" gasoline, which has gained a strong footing in many sections of the country as a competitive gasoline to be sold on a price basis in competition with cut-priced offerings of independent marketers.

East Coast interests do not believe that the market will change over night, and that the less progressive practices which have crept into the industry within the past year will immediately become a thing of the past. They do think, however, that the ground work has been laid for a slow but steady march back toward normal conditions during which some, if not all, of the uneconomical and perhaps unethical marketing practices will be left by the wayside. In this respect, it is believed that the growing efficiency of the industry's code of ethics will prove of immeasurable assistance in wiping out some of the sore spots.

While eastern oil men, naturally, have welcomed the development of a stronger price basis for petroleum and products, there are some who believe that the ultimate destiny of the industry would have been better served if the era of low crude prices had been preserved for another month or so, in order that the errors which have characterized recent activities of the industry would have been brought more glaringly to light, with more lasting impressions. Those holding this viewpoint, however, are definitely in the minority, and the general impression seems to be that the industry has "learned its lesson" more thoroughly than is generally believed.

Average selling prices for gasoline have increased at least one-quarter of a cent per gallon during the past week, which means an increase of more than $5,000,000 in the value of current gasoline inventories of the American industry as a whole. Price increases on other products have added perhaps several million dollars additional to products inventory values of the industry during the same period, while higher crude oil prices within the last fortnight have added many millions of dollars to inventory values.

In addition to the higher inventory values now prevalent, refiners and marketers are getting their markets into position where they can safely look for a more favorable profit margin on their operations, and in some quarters it is predicted that earnings from operations during the closing five months of the year will far outstrip those recorded during the first seven months of 1931, and that many companies which showed operating losses for the first half of the year will be able to more than offset this unfavorable showing during the balance of 1931.

An angle of the present market situation which is arousing widespread interest both in oil and financial circles is the possible effect of the change in conditions on pending merger negotiations within the industry. The Socony-Vacuum merger is closed and out of the way, but the Sinclair-Prairie-Tide Water Associated-Rio Grande consolidation is still in the making. Recent advances in crude oil quotations have radically bettered the position of the Prairie companies, which are carrying huge crude inventories, and has likewise affected the position of the other companies concerned. Merger terms affecting these companies have not yet been announced, so it is not known how the recent changes in the market position will affect the deal. Similar changes in status have developed with respect to some other units in the industry which have recently been reported as involved in merger negotiations.

Barnsdall Corp.

Directors of Barnsdall Corp. omitted the quarterly dividend of 25 cents due at this time.

"Net operating income for the first six months of 1931, as compared with the corresponding period of 1930," the Barnsdall Corp. states, "reflects the demoralized prices for petroleum products and the company's curtailed producing activities. It will be noted, however, that deductions for depreciation, depletion, intangible development costs, dry holes and abandonments are greater than for 1930. This is due in part to extraordinary charge-offs for abandonment of developed and undeveloped acreage.

"The company is doing the largest volume of business in its history. Prices of crude oil and its products recently reached the lowest levels ever experienced.

"Due to the conditions above outlined, the board of directors felt that the payment of a dividend was not justified."

Net operating income after interest and federal taxes amounted to $1,226,591 in the first six months this year, against $6,188,112 in the corresponding period of 1930. Deduction for reserves for depreciation, depletion, intangible development costs, dry holes and abandonments amounted to $3,053,858, against $2,823,980 a year previous.

Barnsdall Corp. and subsidiaries report for six months ended June 30, 1931, net loss of $1,815,498 after interest, taxes, depreciation, depletion, intangible development costs, minority interests, etc. This compares with net profit in first half of 1930, of $3,367,440, or $1.49 a share on 2,254,725 combined shares (par $25) of Class A and Class B stock.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Dec. 10	28.57	Apr. 8	25.52
Dec. 17	25.42	Apr. 15	24.72
Dec. 24	25.68	Apr. 22	22.73
Dec. 31	26.15	Apr. 29	20.54
Jan. 7	27.56	May 6	20.74
Jan. 14	27.31	May 13	20.38
Jan. 21	27.56	May 20	19.25
Jan. 28	27.26	May 27	18.35
Feb. 4	27.26	June 3	18.00
Feb. 11	27.76	June 10	19.62
Feb. 18	28.53	June 17	19.23
Feb. 25	29.33	June 24	22.33
Mar. 4	27.67	July 1	22.32
Mar. 11	26.53	July 8	21.24
Mar. 18	26.78	July 15	19.79
Mar. 25	26.35	July 22	21.33
Apr. 1	24.80	July 29	20.68

Anglo-American Oil

Fred J. Wolfe, managing director of Anglo-American Oil Co., has been elected chairman of the board of directors of the company, succeeding F. E. Powell, who retired on August 1. Mr. Wolfe was formerly vice president in charge of marketing for Imperial Oil Co. of Canada, Canadian subsidiary of Standard Oil Co. (New Jersey), and recently became affiliated with Anglo-American, which is also controlled by Standard of New Jersey.

Mr. Powell, it is reported here, will become associated with Thomas L. Chadbourne, who is working on a plan for the restriction and marketing of the world's sugar supplies.

Phillips Petroleum

Phillips Petroleum Co. reports for quarter ended June 30, 1931, net loss of $2,054,802 after expenses, taxes, depreciation, depletion, etc., comparing with net loss of $619,351 in preceding quarter and net profit of $3,033,555, equal to 90 cents a share, on 3,361,738 no-par shares of stock in June quarter of previous year.

For six months ended June 30, 1931, net loss was $2,674,153 after above charges against net profit of $4,638,390 equal to $1.38 a share in first half of 1930.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending July 25)

1931 High	1931 Low	Week ending July 25 Sales	Week ending July 25 High	Week ending July 25 Low	Close July 29	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1	⅛	100	¼	¼	..	Atlantic Lobos		499,448	N.P.	....	5-28-30	..	..	..	..	1	¼
12⅞	6¼	1,050	10	8⅛	..	Borne Scrymser		$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¼
51	41	No sales.	..	..	..	Buckeye Pipe Line		$10,000,000	$50	$1Q	6-15-31	76	53	74½	55	69	39⅞
129½	101	No sales.	..	..	..	Chesebrough Mfg.		$3,000,000	$25	$1Q‡	6-30-31	161	117	210	130	184⅞	104¼
30	20⅝	50	23	23	..	Cumberland Pipe Line		$1,500,000	$50	50cQ	6-15-31	114	67	75¾	40	65¾	20¼
31	24	150	25¾	25½	..	Eureka Pipe Line		$5,000,000	$100	$1Q	5- 1-31	88	64½	70½	40	54¾	26
2⅞	1	No sales.	..	..	..	Galena Signal Oil		$16,000,000	$100	....	.....	13	4¼	6½	3	7	2½
72	49⅞	1,200	63	61	..	Humble Oil & Refining		$74,103,300	$25	50cQ	7- 1-31	114¾	59½	128	74⅛	119	57¼
18¼	9¾	4,300	12¾	11⅝	11⅞	Imperial Oil of Canada (new)	(sh)	25,421,768	N.P.	12½cQ	6- 1-31	104	56¾	41	22	30	15
21⅛	9⅛	100	12¼	12¼	..	Indiana Pipe Line (new)		$3,000,000	$10	25cQ	5-16-31	91⅞	74⅜	41⅞	26	41	14½
15½	8¾	8,500	12¼	11¼	12	International Petroleum	(sh)	14,247,088	N.P.	25cQ	6-15-31	55	35	30⅜	15	24	11⅜
17½	11¼	No sales.	..	..	..	National Transit		$6,362,500	$12.50	25cQ	6-15-31	32⅜	19⅜	25½	10⅛	22⅜	11½
14½	7½	No sales.	..	..	..	New York Transit		$1,000,000	$10	25cQ	7-15-31	75	38½	17½	10	21⅜	10⅛
30	27	No sales.	..	..	..	Northern Pipe Line		$2,000,000	$50	$2SA	7- 1-31	69	56½	63	41	54	26¼
15½	8	No sales.	..	..	..	Penn Mex Fuel		$10,000,000	$25	75c	6-24-31	84	28	44½	20	32	12
13⅜	3¼	5,400	13⅜	10	12	Solar Refining		$4,000,000	$25	....	12-20-29	..	..	50	29	33	4⅞
17	10	No sales.	..	..	..	Southern Pipe Line		$1,000,000	$10	50c	6- 1-31	19	15	22½	13	20⅞	8⅜
23⅞	12⅜	1,400	13⅜	13	14	South Penn Oil		$30,000,000	$25	25cQ	6-30-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
38	31¼	No sales.	..	..	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	7- 1-31	102	70	70	60	64	32
38½	19⅛	46,300	27⅞	24⅛	24½	Standard Oil of Indiana		$348,175,069	$25	50cQ	6-15-31	95⅞	70⅞	63	45	59⅞	30
23⅝	15⅝	1,500	19	18½	18½	Standard Oil of Kentucky		$25,654,516	$10	40cQ	6-30-31	179¾	122¼	46⅞	29	40½	18⅝
36½	19½	No sales.	..	..	..	Standard Oil of Nebraska		$4,649,225	$25	50cQ	6-20-31	54⅞	39⅞	50¼	40	48⅞	34⅝
62½	35	350	43¾	43	42	Standard Oil of Ohio		$14,000,000	$25	62½cQ	7- 1-31	134	71	129	60	108½	43¼
3½	2¾	No sales.	..	..	..	Swan-Finch Co.		$861,466	$25	....	1-15-29	23¼	16	18	10	10	4
69¾	22⅛	37,500	47	42⅞	43⅝	Vacuum Oil Co.		$126,180,350	$25	50cQ	6-20-31	111	72	133¾	75	97¾	45⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending July 25)

1931 High	1931 Low	Week ending July 25 Sales	Week ending July 25 High	Week ending July 25 Low	Close July 29	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	½	1,900	¾	⅝	⅝	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
16⅞	8½	700	11½	10⅛	..	British American Oil Corp.		1,311,321	N.P.	20cQ	7- 2-31	55	32¾	62	7⅞	23	13⅜
2⅜	½	1,900	1⅜	1¼	1¼	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	9⅜	55,000	10⅞	10	9⅞	Cities Service	(sh)	24,290,359	N.P.	30cA‡	7- 1-31	90⅞	54	68⅛	20	44¼	13
84¾	61¼	700	65¾	65¼	64⅛	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	7- 1-31	103¼	94½	98¾	84	93⅞	78¼
½	⅛	300	⅛	⅛	..	Colombia Syndicate		$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1½	700	1½	1½	..	Consolidated Royal		$5,527,875	$10	7½cQ	4-25-31	8⅞	6¼	11⅛	2½	5⅞	2
3⅞	2	2,600	3	2⅝	2½	Creole Petroleum	(sh)	5,977,873	N.P.	....	.....	17½	9½	11¾	5⅝	7⅝	3
⅝	¼	No sales.	..	..	⅜	Crown Central		.....	....	....	.....	..	..	..	..	..	..
5	2	No sales.	..	..	..	Darby Petroleum (new)		1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	2½	700	2⅝	2½	2⅝	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40¼	26	No sales.	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	38	1,800	59	54	54	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	7- 1-31	165	101⅛	209	115	166⅞	58½
⅝	¼	9,300	⅞	⅝	⅜	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅝	1¾	⅜
1⅞	½	No sales.	..	..	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	½	2,900	⅞	⅝	¾	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
6¾	3½	No sales.	..	..	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	14⅛	2,000	17⅞	16⅛	15½	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	6-30-31	69⅛	48½	67⅞	28	55⅞	19⅝
½	⅛	6,800	⅛	⅛	..	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	3	No sales.	..	..	..	Margay Oil Corp.		160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	100	3¾	3¾	3¾	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
½	¼	No sales.	..	..	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	1¾	.76	1½	¼	¾	⅜
5⅞	3⅛	200	4	4	..	Mountain Producers		$1,682,182	$10	25cQ	7- 1-31	28⅞	19½	22⅞	7	12⅛	3¾
1½	½	No sales.	..	..	..	New Bradford Oil		$1,095,291	$5	....	4-15-31	5⅝	4¼	5	2½	3½	1⅜
3	1¾	1,100	1⅝	1½	1⅜	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3¼	1⅛	No sales.	..	..	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	⅛	1,200	⅛	⅛	⅛	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅜	500	⅝	½	..	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
1⅝	½	600	1⅜	1⅛	1¼	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
3	1¼	100	2⅝	2⅝	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	2	8⅝	2
1⅜	¾	No sales.	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	4	600	4⅞	4⅞	..	Salt Creek Producers	(sh)	1,496,859	$10	35cQ	5- 1-31	35	23⅛	25⅞	9	15¼	5¼
5¼	1	3,400	1⅝	1⅜	..	Sunray Oil	(sh)	1,163,185	$5	5%Q§	4-15-31	..	..	12	5⅝	10	2
1⅞	⅝	1,200	¾	¾	¾	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4¾	6½	1¾	4½	¾
3½	1½	200	2	2	..	Woodley Petroleum		$500,000	$1	....	3-31-29	8¼	4⅞	9½	2	5	½
2¼	¼	2,100	1⅞	1½	1½	Y Oil & Gas		100,000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending July 25)

1931 High	1931 Low	Week ending July 25 Sales	Week ending July 25 High	Week ending July 25 Low	Close July 29	Stocks		Outstanding capital	Par value	Div. rate	Last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	15½	400	18½	18	18	Amerada Corp.	(sh)	922,075	N.P.	50cQ	4-30-31	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	5	400	6	5½	..	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	85	51⅛	64¾	12½	37	5⅛
31	20	20	20½	20½	..	Associated Oil		$57,260,300	$25	35c	6-30-31	53⅜	37½	47¼	34½	51	30
23⅜	11⅛	14,300	16¾	15	15	Atlantic Refining		$66,763,775	$25	25cQ	6-15-31	66⅜	50	77⅞	30	51⅜	16⅝
14½	5¾	13,300	9	7⅞	8¼	Barnsdall Corp. A		$56,546,600	$25	25cQ	5-11-31	54	20	49⅛	20	34	8⅝
12	5	35,200	9¾	8⅝	8½	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅞	18	30½	7¾
47	15¼	7,800	23⅝	20½	20	General Asphalt	(sh)	413,333	N.P.	75eQ	6-15-31	94⅞	68	94¾	42¼	71½	22⅜
68½	27	7,000	43¼	38	39¼	Houston Oil		$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
4⅝	2	500	2⅛	2⅛	..	Indian Refining		$12,564,070	$10	....	10- 1-30	39⅝	9	53	13⅛	17	2
4½	2	200	2½	2½	..	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3¾	1	100	1⅞	1⅞	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
20¾	10⅝	32,300	16⅛	14¼	14¼	Mexican Seaboard	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	50⅜	8¼	37	9¾
16¾	5¾	6,000	10¼	9	..	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	44½	25⅛	39⅞	22½	32	11
19½	7	25,000	10¾	9½	9¾	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	84	58½	79⅞	64¼	32	16
35⅛	25	No sales.	..	..	..	Pan American P. & T.		$50,084,700	$50	40c	7-20-31	50⅞	38¼	69	40½	46½	42
36½	24	No sales.	..	..	..	Pan American P. & T. "B"		$121,110,650	$50	40c	7-20-31	59⅞	37¾	69¼	40½	67¼	30
4¼	1½	600	2	1¾	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1¾
20	10	No sales.	..	..	..	Panhandle P. & R. pfd.		$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4¾	10,100	8¾	7½	8	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅝	11½
1½	½	600	⅝	⅝	¾	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅜	1	2,900	2¼	1⅞	..	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7	3½	5⅞	½	7⅛	1⅛
20⅜	6½	2,000	10⅝	10⅛	10	Prairie Oil & Gas		$60,848,000	$25	....	3-31-31	68	46	65⅜	40½	54	11¼
26½	14⅝	4,000	18½	17	17⅛	Prairie Pipe Line		$101,250,000	$25	75eQ	6-30-31	280	172	65	45	60	16⅝
6	1⅞	No sales.	..	..	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	6	70	6	6	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46⅜	25½	40	11½
11⅞	5½	11,500	8⅜	7⅝	7¾	Pure Oil		$75,959,250	$25	....	9- 1-30	31⅝	19	30⅜	20	27¼	7⅝
6⅜	1	2,600	1½	1¼	1⅜	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
10¾	3⅛	2,800	4½	3⅞	4	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25⅜	5
42⅝	24⅞	1,800	30	27	27	Royal Dutch N. Y.	(sh)	611,303	....	$1.3404	1-30-31	64	44⅝	64	43⅛	56½	36⅞
34	19	No sales.	..	..	..	Shell Transport & Trading Co.		£23,985,000	£1	$0.966	7- 6-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	4½	10,200	7⅛	6⅛	6	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31¾	19	25½	5¼
11	5	1,500	7¼	6	..	Simms Petroleum		$8,353,620	$20	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	6¼	70,800	11½	10¼	10¼	Sinclair Consolidated	(sh)	5,500,000	N.P.	....	4-15-31	46¾	17⅜	45	21	32	9¾
103	77	100	87	87	88	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	5-16-31	110	102½	111	103	112¼	86
12⅞	3⅛	1,300	5½	4½	5	Skelly Oil		$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	12	10⅛
51¾	31⅜	14,400	37⅞	36⅜	36	Standard of California	(sh)	12,594,098	N.P.	62½cQ	6-15-31	80	63	81⅞	51½	75	42⅛
19	8⅜	400	13	11⅞	..	Standard of Kansas		$8,000,000	$25	....	3-16-31	37¾	15	33⅜	18	49	14⅜
52½	30⅝	40,400	39½	36½	37	Standard Oil of New Jersey		$634,999,200	$25	25cQ‡	6-15-31	59⅜	37¾	83	49	84⅞	32½
26	13⅞	89,900	18⅞	17⅜	17⅜	Standard Oil of New York		$445,223,675	$25	40eQ	6-15-31	33¼	28¾	48⅛	31¾	40⅜	19⅜
45¼	31	400	42	37½	37	Sun Oil	(sh)	1,416,869	N.P.	25cQ	6-15-31	77	31½	68⅜	55	70	39
1¾	⅝	2,000	⅝	⅝	⅝	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	18	21,000	24⅜	22⅝	22⅝	The Texas Corporation		$246,204,900	$25	50eQ	7- 1-31	74⅜	50	71⅞	50	60½	28¼
6½	2½	900	4	3⅝	3⅝	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
18	10½	No sales.	..	..	..	Tide Water Oil	(sh)	2,191,759	N.P.	15cQ	6-30-31	41½	19⅝	40	14	31	13
83	50¾	200	51¼	50¾	..	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	5-16-31	100⅛	86	97½	85⅛	94⅞	71
9	4	8,600	6	5½	5¾	Tide Water Associated	(sh)	5,560,424	N.P.	30cSA	2-16-31	25	14¾	23½	10	17¾	5⅞
68	38	500	52½	47½	..	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	7- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	14	4,000	17⅜	16½	16	Union Oil of California		$104,342,375	$25	50cQ	5- 9-31	58	42⅜	57	42⅛	50	10⅛
25⅛	20	No sales.	..	..	20½	Union Tank Car	(sh)	1,254,048	$100	40eQ	6- 1-31	128⅛	110	163¾	121⅞	38½	23
7⅝	1⅝	100	2⅝	2⅝	..	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	3½	2,000	5⅝	4½	5	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

THE CONSERVATION OF ENERGY IN RESERVOIR

(Continued from Page 17)

That decision was to the effect that each landowner is entitled to all the oil and gas he can draw out through the wells drilled on his own land. A glance at Plates 3, 4 and 5 illustrate the significance of that decision. Under such decision "F" and "G" could only secure their proportion of the reservoir content by drilling into the dry gas portion. This practice was constantly followed with the hope that when the gas was depleted oil lower on the structure would rise to the point where it would come out through wells "F" and "G," thus giving to the owners of those wells some of the oil content from underneath their neighbors' land; but in giving them this small portion of the oil content of the pool a vastly greater percentage of the oil content was completely lost to recovery. If any single owner did not immediately drill into the reservoir and extract his portion therefrom, it would either be extracted by other owners or left in the reservoir with the expulsive forces completely exhausted so that it would not move to his well when later recovery is attempted.

Equitable Apportionment

These conditions impelled hasty development and extraction which have finally brought chaos upon the industry. Voluntary consolidation was permissible, but to be effective almost 100 per cent cooperation is necessary—and that is impossible to secure provided the individuals have complete freedom of action to follow some other course. It cannot be achieved unless there are laid down some very definite principles by which the parties must be guided. In Articles 1 and 2 of this series we have pointed out the authority of the State to enact laws requiring both efficiency of extraction and just apportionment between the several owners. In those articles was also pointed out that a suitable standard for apportionment would be that each owner should be entitled to that proportion of the oil and gas in the common reservoir that underlay his land.

Thus in Plate 4, "G" would be entitled to receive only gas out of the reservoir while "E," "H," "I" and others would be entitled to share in both gas and oil. In Article 2, ways and means were described by which the relative content of the several tracts covering a common pool could be determined. If the relative oil and gas content of tracts "B," "C," "D," "E," "F," "G," "H," "I," "J," and "K" are determined while the oil and gas are yet in the reservoir, then it would be comparatively simple to deliver to all owners their proportions through wells "B," "C," "D," "I," "J," and "K" without using wells "E," "F," "G," and "H" except for injection purposes. Thus not only would equitable apportionment be provided for but in addition efficiency of extraction would be developed. Furthermore the oil and gas content could be taken out of the pool in response to the law of supply and demand instead of in response to the law of capture that now prevails.

Several Things Necessary

To promote this practice, however, several things are necessary: First, some standard must be set up to determine each owner's proportionate part of the reservoir content. Such a standard was described in Articles 1 and 2. Second, the expulsive forces in the reservoir must be maintained and perpetuated for the common welfare of all owners and protected against dissipation by any owner. This principle is set out as the second of the five points we have urged that should be incorporated into the law of oil and gas. It is "that the forces of expulsion native to the reservoir shall be declared common attributes of the reservoir to be conserved to the common interest of its several owners and shall not be dissipated except as they are efficiently utilized in driving oil and gas from the reservoir rock to the point of extraction. When these forces have been so utilized then both the gas and the oil should be delivered to their respective owners." It is highly important not only that the legal status of these forces be established but it is also important that this status harmonize with the physical characteristics of the products to be handled. The chaos of the past in the oil industry has been due to the fact that in the development of oil pools man has totally disregarded nature's laws, and a conflict between his laws and those of nature constantly existed.

A well known lawyer previously quoted in these articles stated: "The laws of nature are unchanging and unchangeable. The engineer strives to discover them and the lawyer applies them to human relationships to make them of practical value to mankind. It is therefore the function of the engineer to outline the conditions under which oil fields should be developed and of the lawyer to determine the method by which that can be legally accomplished."

It is obvious if these results are to be attained the method of oil field development illustrated in Plate 2 must be substituted for the type of extraction now prevalent in the industry as illustrated on Plate 5. That substitution will be simplified if principles one and two setting forth a standard of relative rights and safeguarding expulsive forces for the benefit of all are incorporated into the law of oil and gas.

CENTRAL WEST FIELDS

(Continued from Page 48)

ties from the Kentucky Natural Gas Co. of Owensboro. The property originally was developed by the Wood Oil Co., which in 1929 sold it to the Kentucky Natural Gas Co., a subsidiary of the Missouri-Kansas Pipe Line Co. The New Domain is the oldest producing company now engaged in the oil business in Kentucky. Benn Rouff, Irvine, who has been superintendent of the selling company, will be employed henceforth in the Owensboro Field in western Kentucky. Ben Norris, Furnace, Ky., will be in direct charge of the Estill and Powell County properties for the New Domain. The purchase price was not announced.

New drilling operations in the Kentucky-Tennessee Fields have gradually simmered down until the end of the first half of the year finds not more than 111 rigs up and wells drilling in 21 counties in Kentucky and 10 counties in Tennessee. Decline in field work is mainly due to the low price of crude. For many months purchasing companies and pipe lines put a limit on production that would be taken, and lately there has been an effort among the operators to restrict new production in the hope of equalising the supply to the demand and thereby enhance the prospect for a better crude oil price. Operators in the new Hart and Barren districts have been trying to get together and devise plans for a curtailed drilling program. This is now the most productive section in the lower Kentucky area and while most runs have been pretty well taken care of by the pipe line companies, there is still a surplus of crude in the field which should bring a much better price than is quoted at this time, as the oil is a good quality and under normal conditions should sell much higher.

New completions in the Hart County Field were featured by a 300-bbl. shallow sand well on the Caudell farm, south of Munfordville. The strike is near the hamlet of Seymour and proves an extension of the lower Hart County area. In this section there is quite a flurry in new work, with several drilling rigs being located.

Field Work

Work shows a revival in the Owensboro Field of Daviess County. In the Jones Pool, west of Whitesville, Mida McMahan made a strike in the test on the Robert Jones farm, which showed an initial production of 100 bbls. along with a gas volume of 1,500,000 feet at a depth of 627 feet. In the same pool, Ellis and Ashby's test in the northeast corner of the Myrtle Howard farm, 3½ miles southeast of Whitesville, had an initial of 50 bbls. at 628 feet.

Hupp and Duff drilled a dry hole in a test on the Arthur Howard farm, in the Jones Pool, Daviess County, at a total depth of 840 feet. Johnson Oil & Refining Co. hit a duster at a test on the O. D. Hazelrig farm, in the Habit Pool, same county, at 1,205 feet, and John Lewis and others also found a dry hole in a test on the Emmett Hite farm, in the Cane Run Pool, at a depth of 825 feet. Brenner and Adams are drilling a test on the I. G. Hazelrig farm, also in the Cane Run Pool. Frank Cox and others are drilling a test on the Gretcher farm, in the same pool. Mida McMahan is drilling a second test on the Robert Adams farm, Jones Pool. Crouse and others are drilling No. 1 Lee Evans farm, same pool, and Ellis & Ashley are drilling No. 3 Lena Mayfield farm, also in the Jones Pool, all in Daviess County.

B. B. & W. Oil Co. is drilling a test on the C. I. Coleman farm, in the Deanfield Pool of Ohio County.

Jess Watts and others are drilling No. 4 on the Tom Caudill farm, near Seymour in Hart County.

The Creek Drilling Co.'s No. 3 on the L. E. Morris farm, in the Barrett Hill area of McLean County, produced 170 bbls. initial in 24 hours and in 36 hours showed 225 bbls. in tanks, at a total depth of 3,200 feet, the pays being found in the Barlow and Bethel sands, and when crude prices are up there naturally will be some deep tests made in that area.

MICHIGAN

Activity in the old Muskegon Field of Michigan is greater than in many months with three wells deepening in the proved territory, two wildcats in the county drilling and a new well being planned. The Padma Oil & Gas Co., a new operating concern, has been incorporated by C. B. Jetter, head of the Blue Arrow Petroleum Co. Associates of Mr. Jetter in the new company are Thomas L. Sathan and George E. Hart of Chicago. It is understood that the new company will drill one or more wells on the 200-acre Torrent estate lease on the Muskegon River flats formerly held by the Muskegon Oil Corp. The Blue Arrow Petroleum Co.'s No. 2 Torrent, the first on the 200-acre lease is one of the three now drilling in the Muskegon Field. It is being deepened below the Dundee formation in which comparatively small production of oil and gas was encountered.

The Ma-Ha-Goo Oil Co. is reaming a well in Section 5, Muskegon Township, on Daniloff Avenue, preparatory to deepening to the Monroe formation at about 2,200 feet. The Muskegon Oil Corp.'s No. 1 Charles Reeths well, the discovery well of the field, located in Section 9, Muskegon Township, is deepening to the Monroe formation.

W. E. Lang's No. 1 Jonio, Section 30, Fruitport Township, Muskegon County, and a wildcat test, is reported at 1,920 feet after topping the Traverse formation at 1,768 feet. No showing of oil or gas at the 1,920-foot depth.

H. and W. Feicke's No. 1 Feicke, Section 6, Fruitland Township, Muskegon County, near the Junction of U. S. 31 and the Lakewood Road, is deepening at more than 2,400 feet after being unsuccessful in the Traverse and Dundee.

OKLAHOMA OIL WELLS AVERAGE 9.27 BARRELS

(Continued from Page 14)

to an average of 8.96 bbls. per well and Garber to 5.81 bbls. per well. The once rich little Billings Pool averages 3.76 bbls. per well.

The Bristow and eastern Bristow or Slick Pools in Creek and western Okmulgee Counties, average 9 bbls. per well per day from 1,629 wells. This area has poured out many millions of barrels of oil in past years, but it is gradually slipping.

The Cushing district comprising all the wells in western Creek County, and in Pawnee County, Payne and Lincoln Counties, and including Cushing, Jennings, Cleveland, Yale, Quay, Ingalls, Maramec, south Cushing, north Cushing, Deep Rock or Mehan-Ripley, Keystone, Stroud, Davenport, Kendrick or Skellyville, Masham-Ralston and west Chandler average only 6.56 bbls. per well from 4,448 wells.

Outside of Burbank all the wells in Osage County, 7,798 in number, average 2.17 bbls. per well.

The Tulsa-Okmulgee district, including Boynton, Muskogee, Morris, Bald Hill, Beggs, Okmulgee, Henryetta, Weleetka, Deaner-Lyons, Sapulpa, Fisher, Pickett Prairie, Broken Arrow, Glenn Pool, Bixby, Mounds, and Red Fork are down to an average of 2.36 bbls. per well.

The old Bird Creek Field with its 2,903 wells produces 1.10 bbls. per day per well, the Nowata Field in Nowata County, takes 7,786 wells to produce 5,650 bbls. an average of .72 bbl. per day per well; while the Bartlesville Field in Washington County, with its 7,323 wells produces 4,768 bbls. or .65 bbl. per well. The Chelsea Field in Rogers County has 4,122 wells producing 2,045 bbls. or .40 bbl. per well. Pretty slim pickings in those old Bartlesville sand fields of Bird Creek, Bartlesville, Nowata and Chelsea.

Classifying the Flush Fields

In the 200-bbl.-or-better class of wells, are Oklahoma City, south Earlsboro and Wewoka Townsite.

The 100 to 199-bbl. class includes west Chandler, East Earlsboro, and Carr City.

The 50 to 99-bbl. class takes in Marshall, the Perry district, Seminole City, Earlsboro, Bowlegs, Little River, East Little River, Mission, Sasakwa, Asher and Konawa.

The 25 to 49.9-bbl. class includes Sholom Alechem (including Tatums), Lovell, Allen, East Seminole, St. Louis-Pearson and Holdenville.

In the fields averaging 25 bbls. per day per well and upward there are 3,928 oil wells. Their production is variable because of the operation of the proration plan. In the accompanying table they are credited with 365,614 bbls. but on another day they might produce 300,000 bbls. or 450,000 bbls. or whatever quantity the wells permitted to produce on that particular day might pour out. In Oklahoma City none of the wells produce daily. In fact they are permitted to produce only a very small part of the time. In this table Oklahoma City is credited with a production of 168,613 bbls. It can produce 500,000 bbls. as easily as 100,000. Doubtless for a brief period it could produce 1,000,000 bbls. a day, so that the average potential production per well of the larger wells in the State is not represented in the table.

On the other hand there is no question about the average daily production of the wells below 25 bbls. There are 55,976 of them and they average 3.38 bbls. per well per day. Of this class of wells we can take all the wells below 1 bbl. per day and all the wells in the 1-bbl. class

and 3,132 wells out of the 2-bbl. class and the combined production of the resultant 30,645 wells is only 30,130 bbls., or less than 1 bbl. per day per well.

CALIFORNIA SALES AGENCY CHANGES ITS OFFICERS

(Continued from Page 14)

dustry some refining companies have closed down, others have been compelled to forego dividends, others are producing refinery products and selling at less than cost, a condition that cannot continue indefinitely and may result in the entire loss of their capital investment. A few without regard for the industry at large are able to meet their own market demands and make a small margin of profit by somewhat reckless dumping of their products, thereby breaking the markets for others. Some of the independent oil

Neal H. Anderson
California State Oil Umpire

producing companies are facing bankruptcy, others are already in the hands of receivers and hundreds of them are either just making expenses or are operating their properties at an actual loss. One of the State's greatest natural resources is being sold at historically low prices when it might better be conserved for use in the future under more favorable financial conditions for everyone directly or indirectly concerned in the success of this major industry.

"With general participation by the public in the movement to stabilize prices in the oil industry however, it is reasonable to presume that some of these conditions will be corrected, that quicker recovery may be attained by those branches of the industry now suffering most and that the spread of earnings will benefit many other lines and bring more prosperous conditions to all. The ultimate result would be more labor employed in the shops and stores, more labor used by the manufacturers to meet the demand for more goods, more transportation and more help required in the handling of these goods and more money thereby made available for more purchasers by an increasing army of men and women once more gainfully employed. Coincident with this development would come reaction in the oil business. With this army of purchasers released there will be less thought of cheaper gasoline, perhaps even greater consumption than at present, with the contingent possibility of more employment in all branches of the oil industry. Assets of the investor in that industry now frozen would become more liquid. There would be restoration of confidence all along the line and the oil industry might again readjust itself to better market conditions and consumption demands. This great effort cannot be accomplished by the agency alone but it must be a growth, a development, if you please, of the results of careful analysis of all the phases of our problem and co-operation in their solution by the factors most concerned, the public, the press, independent and major producers and independent and major marketing oil companies."

One State Umpire

According to announcement by Paul N. Boggs, chairman of the general oil conservation committee, usually known as the state curtailment committee, "to effect economies in the operation of the umpire's division of the work assumed by the committee in prorating oil production from the various leases and fields in California," offices of the two district umpires will be consolidated, effective as of August 15.

Neal H. Anderson was elected as state oil umpire. He has served as district umpire in the Los Angeles Basin fields for the past two years. These fields, it was stated, contain all of the town lot production. He is a petroleum engineer with a national reputation and an oil producer.

THERE IS ONLY ONE CAUSE FOR LOW PRICES

(Continued from Page 18)

in all other areas to just that extent and prices in other areas naturally dropped to a level which could compete with East Texas.

Crude oil producers are simply kidding themselves if they try to believe any other cause is responsible for low prices than the fact hundreds of thousands of barrels of high gravity crude oil is available to purchasers in East Texas at 20 to 25 cents a barrel and even less. The record-breaking construction of pipe lines into that area made this crude available to markets throughout the Atlantic Seaboard, the Gulf Coast refineries and as far north as Chicago. Tank car shipments average more than 100,000 bbls. daily, making this cheap crude available to refineries throughout the country east of the Rocky Mountains.

Improvement in the present situation and higher prices will come just as soon as East Texas operators realize no profit can be made from present prices and when the promoter and fly-by-night operator are eliminated from the picture. Cases have been reported where owners of production offered the crude oil free to pipe line companies if these companies would connect to certain leases, the reason being the owners of the leases—promoters—then could sell more stock on the plea they had production and this production was being taken by a large buyer. When such a condition prevails, how could prices in other areas remain at anything near a reasonable level?

Situation Righting Itself

The price situation will right itself within the near future regardless of what the Texas legislature does and regardless of any action upon the part of Governor Murray of Oklahoma. Producers in East Texas who are literally swept into the oil business by the discovery of oil on their farms are gradually dropping from the picture. Inefficient drilling methods, poor equipment and failure to observe proper safety precautions have proved quite expensive while dumping flush production on the market at any price that could be obtained failed to bring returns adequate to costs and expenses.

Efficient operators and companies financially able to develop the area in a conservative and businesslike manner are gradually assuming a more important role as many of the individual lease owners are glad to dispose of their holdings. The larger companies, with engineering staffs and competent drilling superintendents, realize the great danger of water encroachment. They know that flowing wells wide open, drilling too deeply, and not maintaining a back pressure will hasten water encroachment with a resultant loss of considerable production. They can be depended upon to operate their wells on a conservative basis as long as they are not menaced by offsets flowing at capacity.

Considerable progress is being made in efforts to unitize the area. If successful, these efforts will mean a still more conservative development with a reduction in operating costs and a greater ultimate recovery.

Wild Orgy Nearing End

The orgy of wild and inefficient drilling and the dumping of crude oil production on the market regardless of the price received is nearing an end in East Texas. When the promoter and the individual or company operating on a shoestring are eliminated from the development of that area, better prices will obtain there and with higher prices in East Texas, the crude oil price structure of the entire country, east of California, will get back quickly to a reasonable basis.

When there is an oversupply of any product, the price of that product is bound to decline. All the legislation in the world cannot stop it. And when producers of a product are willing and anxious to sell it at practically any price the buyer chooses to pay, the price structure of that product is literally shot to pieces. That is what has happened to the crude oil price structure due to East Texas crude being sold at such ridiculously low prices and the industry can rant and complain all it cares to but the situation will remain the same until the cause is eliminated. And, as stated above, there is only one cause—a vast production in East Texas thrown on the market regardless of costs or price.

FIRST OIL RUN THROUGH SINCLAIR-TEXAS SYSTEM

HOUSTON, Tex., Aug. 1.—The first East Texas oil through Sinclair-Texas Pipe Line Co.'s new pipe line system out of that field was received at the Houston refinery of the Sinclair Refining Co. Friday, July 24. The oil, routed out of East Texas through the company's new 12-inch line to Colonels Station on the Prairie-Pure Pipe Line Co.'s trunk system to the coast, was run in the latter system to Huffman Station, 28 miles northeast of Houston, where it was delivered to Sinclair's new 12-inch line to the refinery. The Houston Ship Channel crossing of the latter line has not been completed but pending the completion, the crossing is through an 8-inch line leased from the Texas Pipe Line Co.

The Sinclair-Texas Pipe Line Co.'s crossing will be through a tunnel under the channel. This tunnel, which will be 600 feet long, 8 feet high and 8 feet wide, is under construction and will not be completed for another two or three months.

Headquarters of the operating end of the Sinclair East Texas system, formerly in Houston, have been moved to Tulsa although J. J. Sloan, vice president of the Sinclair-Texas Pipe Line Co. of Houston, under whose direction the new lines were built, will continue in charge, and will spend much of his time in East Texas. Mr. Sloan's personal headquarters, however, will be in Houston where it is in charge of the Gulf Coast lines of the company.

M. I. T. STARTS FIELD CLASS

NEW YORK, Aug. 3.—The Department of Fuel and Gas Engineering of Massachusetts Institute of Technology has opened its field station at the Tide Water Oil Co.'s Bayonne refinery, and will continue in operation until the Saturday before Labor day. As in previous summers, Frederick P. Broughton and S. A. Guerierri are in charge of the work. The class will conduct practice tests on various equipment in the plant, in order to acquaint the students with the operations making up the process of petroleum refining.

POLISH PRODUCTION IN MAY

During May, 1931, Poland produced 372,155 bbls. of crude petroleum, and exported 40,957 bbls. of gasoline.

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 101)

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931
(All gravities above these quoted take highest price for that field)

Gravity *A.P.I.	Signal Hill	Alamitos Heights, Seal Beach	Huntington Beach	Athens, Rosecrans, Dominguez	Torrance	Santa Fe Springs	Playa Del Rey*	E. Coyote, Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity *A.P.I.
11-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	$.65	$.65	$.65	....	$.65	....	....	$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.65	.65	.65	....	.65	....	$.65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.55	.55	.55	.55	20-20.9
21-21.9	.65	.65	.65	....	.65	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.73	.73	.73	.73	....	.65	....	.72	....	.70	.67	....	.66	.66	26-26.9
27-27.9	.75	.75	.75	.75	....	.68	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	....	....	....	.85	....	.80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	....	....	....	.87	....	.82	....	....	....	....	....	....	....	....	33-33.9
34-34.9	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

SOVIET ANNOUNCES PLANS FOR BIG OIL PRODUCTION

(Continued from Page 24)

States, even if the crisis is weathered, will without doubt proceed at considerably lower speeds.

"The situation in the U.S.S.R. is totally different. According to the number of motor cars we occupy so far one of the last places, but this year will see the finish of the building of the Nijni-Novgorod auto-giant and of the reconstruction of the Amo Motor Car works. (Practically speaking a new and powerful automobile works have been built.) Other works will follow these, and the growth of automobilism will advance with gigantic steps.

"After getting rid of 'infantile' diseases, the production at the Stalingrad tractor works is finally going smoothly. This year the Putiloff works will produce 32,000 tractors. The building of the Kharkoff tractor works is nearing completion. The Tcheliabinsk works are being built at a rapid rate. These works will give an enormous number of tractors for Soviet fields; our tractors, thanks to the Socialist way of using them, work 20 hours of the 24 during the season.

Old Speeds Will Seem Slow

"All this creates such a huge demand for oil products that our former speeds will seem Lilliputian in comparison with those of the future. During the next five years the oil industry of the U.S.S.R. will begin to overtake and outstrip the United States, the first country as far as oil production is concerned.

"The capitalist West is already beginning to understand that such perspectives of the development of the Soviet oil industry are not fairy tales, not Bolshevist phantasies, but reality, and it accepts this reality with mixed feelings; fear occasioned by the incredible speed of the growth of our country, and hope for the 'inevitable' curtailment of Soviet exports as a result of the necessity of satisfying first of all the requirements of the home market of the U.S.S.R. The oil kings hope that the development of the Soviet oil industry will not keep up with the increase of the requirements of the home market, and the U.S.S.R. will be obliged to curtail her exports or, in the best of cases for them (the oil trusts), slacken the speed of the growth of Soviet exports.

"A vain hope; the working class has been capable of defending Soviet oil from being seized by interventionists, have been capable of safeguarding it from the grasp of the concessionaires, and notwithstanding the mischief makers, who have made wasps' nests in our oil industry, they have been capable of developing their oil industry with amazing rapidity. The Soviet proletariat, having gained such victories, will without doubt fill the honorable role assigned to them, and will develop their oil industry to such an extent that it will be able both to satisfy the home market and guarantee the further growth of the export trade.

Pet Hobby-Horses

"One of the pet hobby-horses of our opponents in the battle with Soviet oil exports is the propagation of fables, such as, that we are developing our export trade at the expense of 'robbing' our consumer in respect of kerosene and at the expense of depriving the industry of oil fuel. In order to put an end to these fables, we will give a few particulars.

"In 1913 on the present territory of the U.S.S.R. 830,000 tons of kerosene were sold; in 1924-25 the consumption of the home market of the U.S.S.R. was 457,000 tons; and in 1929-30, 2,133,000 tons. If from the figures of 1929-30 we exclude tractor consumption (589,000 tons) for the remaining requirements, i.e., almost exclusively the requirements of the wide consumption of the population (for industrial and other purposes, a negligible quantity is used), 1,544,000 tons have been consumed. The increase is not inconsiderable.

"According to customs data, the exports of kerosene from Russia averaged, for the period 1909-1913, 452,000 tons per annum. But this figure is not demonstrative; to it should be added the quantity of Russian kerosene which was used to satisfy the requirements of parts of former Russia, now the neighboring states of Lithuania, Latvia and Esthonia, and former Russian Poland. This quantity came to approximately 330,000 tons per annum. Thus it would be more correct to define the prewar exports of kerosene from the territory now occupied by the U.S.S.R. as 780,000 tons. However, the exports of kerosene from the U.S.S.R. came to 781,000 tons in 1929, and 777,000 tons in 1930. This goes to prove that present exports of kerosene from the U.S.S.R. are on the same level as before the war. Any statements asserting that we are developing our oil export trade at the expense of robbing the consumer are without foundation.

"Of course, it is clear to us why Sir Henri Deterding is taking care of the interests of the Soviet consumer; our kerosene is sent mainly to Egypt, India and Turkey, i.e., the markets of which Deterding would like to have the monopoly.

Increase in Consumption

"As far as concerns 'depriving' our industry of oil fuel, the data depict the following: In the prewar period the consumption in Russia was on an average 4,820,000 tons; in 1924-25, 3,853,000 tons; and in 1929-30 the consumption increased to 7,195,000 tons. This likewise is not a small increase.

"And still notwithstanding the enormous increase in consumption on the home market, the U.S.S.R. has succeeded, thanks to the speedy development of the oil industry, in considerably increasing her exports, viz., from 947,000 tons in 1913 to 4,803,000 tons in 1930, moreover, mainly in respect of benzine and oil fuel.

"Such a rapid growth of exports is explained not only by the good quality of Soviet oil and geographical proximity of the Black Sea ports to the principal import markets, but likewise by the fact that the interests of the Soviet oil export trade not only do not oppose the interests of importing countries, but coincide with them.

"This situation can be illustrated by the work of the Soviet Soyusneft export in various countries. Let us dwell on a few of them.

"Having no oil of her own France depends wholly on her imports. Her participation in the Iraq Petroleum (a company for the exploitation of Mosul oil) has, so far, given nothing of positive value to France, as the chief participants in the company—English and American oil magnates—with the present chronic overproduction of oil, are in no way interested in forcing the development of Mosul. As far as concerns the prospects, although, according to the latest agreement about Mosul, the pipe lines must be laid by 1935, there is no doubt that the English and American participants in the Iraq Petroleum will do everything to delay the exploitation of this new source.

France Must Import

"But even after the exploitation of Mosul has begun France will be obliged to import large quantities of oil and oil products from other countries. With these conditions the importation of Soviet oil products makes it possible for France to be free and not completely dependent on the world trusts. And, of course, the circumstance that during the period of the most strained political relations between France and the U.S.S.R., the French ministry of war was a constant consumer of Soviet mazout and gas oil was not accidental. The French company 'Petrofina' is also a large consumer of Soviet benzine, oils, etc.

"It is necessary to remark on the inconsistency of the French oil policy; when issuing the permits for the importation of oil products (in France a licensing system for oil and oil products has been introduced) the Soyusneft export did not receive any licenses. French circles should not forget that, even after the development in France of her own oil refining industry, France's interest in deliveries of Soviet oil and oil products will still be very great.

"In Italy the Soyusneft export works through the Italian semigovernment organization, 'Agip,' is a constant supplier of oil fuel to the Italian navy, with which there exist long-term contracts.

"The experience of Italy's work with the Soviet oil exporting organizations shows what enormous positive significance Soviet oil may possess in the struggle of any country for her own independent oil policy. The consciousness of mutual advantages will no doubt guarantee the further solidification and extension of commercial relations between Italy and the U.S.S.R. in the oil trade.

Change of Mind in Spain

In Spain the former monarchist government, contrary to the country's interests, broke off the agreement with the Soyusneft under pressure on the part of the world trusts; however, the new government had to acknowledge the advantage of buying Soviet oil, and, as already published in the newspapers, has concluded an agreement with the Soyusneft export for 3½ years, in accordance with which over 60 per cent of Spain's requirements will be covered by Soviet oil products.

"In Germany, a large proportion of Soviet benzol passes through the hands of the national association of the benzol industry.

"Parallel with agreements with government and semigovernment organizations and national firms, the Soyusneft export is developing its own retail apparatus in various countries — England, Germany, Sweden, etc. On these markets the Soviet organizations have become a very serious factor.

"It would be incorrect to imagine that the attitude of all the world trusts toward Soviet is equally hostile. While the Shell, with Deterding at its head, takes an extremely hostile position, the Standard Oil group is not so unanimous by far; a part of this group, the Standard of New York and the Vacuum, which work the Eastern markets (Turkey, India, Egypt, etc.) and have no production basis in the East, is interested in the purchase of Soviet kerosene, mazout and benzine, deliveries of which from the U.S.S.R. to these markets come considerably cheaper than from America. These two firms long ago entered into business relations with the Soviet oil exporting organizations. However, the Standard groups working in Europe, in particular the Standard of New Jersey, which at first treated us as enemies, also understood that it was more to their advantage to come to terms with the Soviet organizations, in consequence of which the Anglo-American, a branch of the Standard Oil of New Jersey in England, with the silent consent of the Shell and Anglo-Persian, concluded an agreement with the Neftesyndicate in 1929 for three years.

Conference in London

"During the last few days the German press has announced that there will be a conference in London of the world trusts, and that the Americans have given the English to understand that they cannot allow any boycott of Soviet oil; it appears that at the conference the question of further purchases of Soviet oil products by Anglo-American (after expiration of the agreement of 1929) will be discussed. We do not know to what degree this German press communication is correct, but a boycott of Soviet oil and a refusal to purchase it would be in no way in the interests of the Standard.

"The crisis in the world's oil industry and trade is becoming more acute, oil shares are falling in price, dividends are decreasing, the situation on the import markets is growing worse. With the aggravation of the crisis the campaign against Soviet oil, and so-called Soviet dumping, is being intensified. Deterding and his satellites are at the head of this campaign. We must say, in all fairness to the European bourgeois press in general that it does not take up this campaign. The reasons for this line of conduct are to be sought for in the circumstances that the European countries are only too interested in the importation of Soviet oil products and that accusations of Soviet dumping are obviously absurd.

"Anybody with any knowledge of oil matters knows that it is not the U.S.S.R. that fixes the world export prices, but that these are fixed by the United States and that in Europe the price lowering policy is all the time being conducted by Rumania, which is choking in the grip of a profound crisis. The U.S.S.R. supplies an overwhelming majority of her production to her regular customers in accordance with old contracts over a number of years, concluded on the basis of world prices. How then can the U.S.S.R. be interested in lowering these prices?

Retail Policy

"As far as concerns the policy of Soviet retail organizations in Germany, England, and other countries, all they are striving for is that on these markets they should be given the opportunity of disposing of such quantities of oil products as can be claimed by the U.S.S.R. as the largest world producer of oil.

"The competitors against Soviet oil are striving for the stabilization of Soviet oil exports on the various markets. But they must not forget that it is only a short while since the Soviet oil exporting organizations appeared on the outside markets, and naturally have not had time to develop their work sufficiently. Therefore, the Soviet organizations are striving quite lawfully, and will go on stubbornly striving to extend their activities on these markets. Moreover, in case the lawful rights of Soviet organizations are acknowledged, the latter have not refused, and do not refuse to co-ordinate their trading policy with other oil trading organizations.

"The Soviet oil export trade has already gained great successes. Our oil organizations are now confronted with the task of strengthening their position and raising their specific gravity on the markets where they have already started work, and also of moving forward to other markets. On these new markets national firms must in the first place act as introducers of Soviet oil products. How-

View of the Burma oil field, Burma, India.

ever, the possibility is not precluded of the Soyusneft export creating their own retail organizations likewise on the new markets, while at the same time selling through the trading apparatus of the large oil organizations already in existence on these markets."

Late Fields

(Continued from Page 24)

drilling at 3,610 feet. It is the only active operation in the field.

KANSAS

In the northeastern part of the Ritz-Canton Field in McPherson County, seven producing gas wells have been completed with a potential open flow of 150,000,000 feet of gas a day. Two other locations were announced during the week. Darby Petroleum Corp.'s No. 2 Fletcher, SW cor. SE SW, Section 16-19-1w, is a location. The test offsets the Magnolia Petroleum Co.'s recently completed gas well which made 24,500,000 feet of gas, a day. The same company made another location for No. 3 Kaegi, SE cor. NE, Section 20-19-1w, which offsets a gas well completed by Harris & Haun.

Study & Turner and others' No. 1 Goering, in Section 1-23-4w, in the Haury Pool, in Reno County, is estimated to be a 100-bbl. well at a total depth of 3,348 feet in the chat. It may be drilled into the formation.

Plains Oil Co.'s No. 1 Unruh, NW cor. NE, Section 6-20-1w, is expected to reach the Viola lime in a few days. It was drilling at 3,157 feet on the last report. The same company is starting another test in the SW cor. NE, Section 6-20-1w.

E. B. Shawver and others' No. 1 Lively, SW cor. NW, Section 21-19-1w, is a new location in the northeastern part of the Ritz-Canton Pool.

Derby Oil Co.'s No. 6 Eastborough, SE cor. NW NE, Section 19-27-2, in the Eastborough Pool, in Sedgwick County, was completed for 344 bbls. of oil a day, from the Simpson sand at 3,285-88 feet.

Joe Liggett's No. 1 Whitson, SW cor. NW SW, Section 16-11-15w, in Russell County, was completed for 35 bbls. of oil a day from the pay at 3,184-86 feet. The Oswald lime was found at 2,993 feet.

Derby Oil Co.'s No. 5 Eastborough, NE cor. SW NE, Section 19-27-2, Sedgwick County, will be drilled deeper to the Simpson sand. It is one location south of the same company's No. 6 Eastborough, which was recently completed for 344 bbls. of oil a day from the Simpson sand.

Magnolia Petroleum Co.'s No. 5 Wheeler, in approximately NW cor. SW NE, Section 19-27-2, is rigging up to drill deeper. It is the east offset to the Derby Oil Co.'s No. 6 Eastborough.

The Magnolia Petroleum Co. will also drill a twin well to its No. 4 Wheeler, which will offset the Derby Oil Co.'s No. 5 Eastborough. The Magnolia Petroleum Co.'s No. 4 Wheeler is now pumping around 100 bbls. a day.

Carter Oil Co., Blackwell Oil & Gas Co. and others' No. 2 Rex, in Section 22-33-3w, Sumner County, was drilling at 4,140 feet, expecting to reach the pay formation in a few days.

CHAMPLIN DECISION IN 10 DAYS

Federal Judges John H. Cotteral, Franklin E. Kennamer and Orle L. Phillips heard oral arguments at Guthrie, Okla., Monday in the case of the Champlin Refining Co. attacking the Oklahoma proration law. It was reported a decision would be handed down 10 days hence.

SHELL OFFICIAL RESIGNS

Dr. A. Wade Schwitalla, general manager of the crude oil department of the Shell Petroleum Corp., with headquarters in Tulsa, has resigned. He has been connected with the company for the past eight years.

Governor Would Change Texas Tax

Bill Levies 2 Cents a Barrel Instead of 2 Per Cent. Conservation Bills Going Through Committees

By Special Correspondent

AUSTIN, Tex., Aug. 4.—Gov. Ross S. Sterling of Texas Monday submitted to both the House and Senate the subject and a request that the legislature change the present 2 per cent production tax on petroleum to 2 cents per barrel. This, he pointed out, is equivalent to 2 per cent on $1 oil.

Governor Sterling, in a separate message, urged that the legislature make as few changes as possible in the conservation laws, excluding all questions of price fixing, further defining physical waste and speeding up court procedure, and providing for an appointive commission and state employment of field umpires. He said he will veto any bill tending to give monopoly control to the industry.

He commended the legislature for voting $30,000 to the Attorney General for monopoly, price fixing and antitrust investigations.

Governor Sterling's tax message was sent as a measure designed to prevent enforced raising of the state property tax rate. He submitted a proposed bill to increase the present oil production taxes to 2 cents a barrel. The house committee on revenue and taxation began hearings on his bill Monday and Tuesday nights.

Governor Sterling told the legislature: "I think it prudent that our present statutes be only made plain, so as to further define physical waste, if necessary, and supplemented with more adequate and expeditious procedural provisions.

"These laws were designed to prevent physical waste only and expressly inhibit the consideration of economic waste. This idea should be cautiously preserved. All price-fixing attempts must be avoided. If our laws permitted the Railroad Commission or any other body to prohibit production of oil in excess of the market demand it would tend to bring about a condition where the oil interests of this State might create a monopoly in this important part of the people's business.

"I oppose any law that would have a tendency toward price fixing. The people must be protected from any tendency toward monopoly, and any law which this legislature might pass, if I could see in it anything tending, or that might result in a monopoly, I would feel constrained to veto without ceremony. The ultimate and sole end of all legislation upon these subjects by this legislature should be the conservation of natural resources."

The House of Representatives Monday by a vote of 90 to 28 gave its support to the governor's plea that the market demand provision be stricken from oil proration laws.

The House, sitting as a committee of the whole, rejected an amendment, offered by Rep. Walter Beck of Fort Worth, to the Wagstaff conservation enforcement bill that would have required the Railroad Commission to take market demand into consideration in fixing allowable production.

The house committee on revenue and taxation Monday and Tuesday nights was engaged in hearings on the bill sent up by Governor Sterling Monday, to change the gross production tax on oil from 2 per cent to 2 cents per barrel, an increase of the State's revenue on present prices from the present $1,500,000 a year to about $6,000,000 a year.

The senate state affairs committee Tuesday favorably reported Senator Woodward's bill, identical with the Wagstaff house bill, to strengthen enforcement and speed up injunction hearings.

The committe rejected Senator Clint C. Small's bill, based on the oil emergency committee's measure, which would have made market demand the basis for allowable production.

A committe substitute bill was reported to the Senate for the Gainer (Mayer) bill to create a state oil and gas commission. A bill to fix a minimum price for oil was killed by the committee.

Spokesmen for the oil industry before the senate committee in its final day's hearings included Tom Hunter, Wichita Falls, member of the oil emergency committee; Gen. Jacob F. Wolters, counsel for The Texas Company, and John E. Green, Jr., general attorney for the Gulf companies.

General Wolters insisted that the State should prohibit as physical waste the production of oil in excess of current consumption and reasonable reserves. "When news goes out that this legislature," he said, "has refused to permit proration against overproduction, 300,000 stripper wells will shut down and be destroyed forever. Texas will see dark days then—darker than now—there will be 120 counties of Texas default their bonds."

Mr. Green followed the line of testimony of Vice President Underwood Nazro of the Gulf company, and insisted the State needs no additional conservation laws.

In perfecting the Wagstaff bill of waste definitions and enforcement provisions the house, sitting as committee of the whole Tuesday noon, voted down an attempted amendment by Representative Bailey Hardy of Breckenridge that would have provided for ratable taking from one field as against other fields. It then adopted, by a vote of 82 to 18, an amendment by Representative Walker of Vernon, providing for ratable taking and application of the common purchase law as between wells in a single field. The house committee is yet to take a final vote on reporting out the Wagstaff bill or a substitute.

Every speaker opposing it, Governor Sterling's bill to change the 2 per cent oil tax to 2 cents per barrel was roundly condemned by oil men appearing against it Monday night before the house committee on revenue and taxation.

Jake Hamon, Jr., extensive operator in West Texas fields, insisted it would force him to close down wells at once, if enacted.

Tom Hunter, Wichita Falls, said he was "amazed" at Governor Sterling's submission of this bill—like trying to save a drowning man by pouring water on him, he said.

C. F. Roeser, Fort Worth; A. M. Gholson, Eastland; E. R. Smith, Mexia, and Jacob F. Wolters, The Texas Company attorney, were among others attacking the measure.

WYOMING ASKS THE PRESIDENT TO FIX PRICE IN EACH FIELD

By T. R. Ingram

DENVER, Colo., Aug. 3.—The State of Wyoming, through A. M. Clark, acting governor, this week appealed to President Hoover to have the federal government through the President and the Secretary of the Interior to at once establish a minimum price of $1 per barrel for Salt Creek crude; to immediately begin an investigation to determine the value of crude in each Wyoming Field in which government oil leases are operated and to fix minimum prices in all such fields. The telegram was sent following a meeting of heads of departments a week ago to discuss the Wyoming situation, following which it was stated by the acting governor that a special session of the legislature was not contemplated at this time.

The telegram to the President follows:

"The major portion of the Salt Creek Field in Wyoming is owned by the federal government and that field is the largest producer of high-grade petroleum in the Rocky Mountain district. In the Salt Creek Field the State of Wyoming owns a school section which is operated under lease. For many months past the prices offered by marketers and refiners for Wyoming crude oil have been much less than the value of such oil.

"The price of the best quality of Salt Creek crude oil went as low as 19 cents per barrel and is now approximately 38 cents per barrel. At the time that high-grade crude oil was selling at 19 cents per barrel in Wyoming the retailers in Wyoming were selling gasoline at 19 cents a gallon.

Refused to Sell

"The price of crude petroleum in the Osage oil field of Wyoming was reduced proportionately to the Salt Creek prices, but the operators refused to sell the oil at the lessened prices with the result that the marketing agencies and refiners are paying $1 per barrel and more for the Osage crude.

"To a large extent the refiners who purchase Salt Creek crude oil appear to control the operators in the field, either by contract for sale of production or through subsidiary corporations, so that there is little incentive for the majority of the operators in that field to demand higher prices for the crude production.

"Heretofore this state made investigation relative to the costs in connection with the refining of crude petroleum so as to enable it to determine the fair price for refined products as compared with the purchase price to the refiners of the crude petroleum produced in Wyoming. The present sale price of crude petroleum produced in Wyoming is unreasonably

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EGYPTIAN CRUDE OILS DIFFER IN PROPERTIES

(Continued from Page 22)

boiling point of 100° F. and endpoint of 419° F. It was water white, stable and of good knock rating. This cracked motor fuel is marketed in Egypt.

The bottoms left after the distillation of the treated pressure distillate makes a good Diesel, furnace or tractor fuel.

Flashed Residue

The residues from the cracking of Hurghada stocks gave the properties shown in the table:

Gravity °A.P.I.	11.1	9.6	10.6	10.2
Specific gravity at 60° F.	1.083	1.002	1.079	1.076
Initial boiling point °F.	347	...	415	427
Flash (open cup) °F.	295	99	165	275
Saybolt Universal (Secs.)	89 @ 212° F.	486 @ 122° F.	107 @ 212° F.	100 @ 212° F.
Congeal point °F.	50	15	45	50
Base sediment and water, per cent.	0.4	0.7	0.8	0.7
Per cent distilled over @ 572° F.	8	...	6	10.5

IMPORTS AND EXPORTS SHOW LARGE DECREASES

(Continued from Page 103)

to 7,105,112 bbls., a decrease from 13,110,038 bbls. in the previous June.

Illuminating oil exported aggregated 720,339 bbls. valued at $2,263,968, compared with 1,735,417 bbls. valued at $6,398,509 in June, 1930.

Gas and fuel oil was exported in June to the extent of 2,461,528 bbls. valued at $2,355,242, compared with 3,502,620 bbls. valued at $3,490,594 in June, 1930.

Fuel or bunker oil exported in June for vessels in foreign trade aggregated 4,053,160 bbls. valued at $3,702,926, compared with 4,040,615 bbls. valued at $4,422,704 in June, 1930.

Lubricating oil was exported to the extent of 821,353 bbls. valued at $6,183,816, compared with 971,570 bbls. valued at $8,430,591 in June, 1930.

Red and pale oil exported in June aggregated 496,892 bbls.; black oil, 33,412 bbls.; cylinder oil, 291,049 bbls.

Lubricating grease exports were in quantity 5,969,436 pounds, compared with 7,024,766 pounds in June, 1930.

Paraffin wax exports were 20,389,013 pounds, compared with 23,014,700 pounds in June, 1930. Of this quantity imported in June, 1931, 4,000,395 pounds were unrefined and 16,388,618 were refined.

NATURAL GAS NOT BEING WASTED IN EAST TEXAS

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ing charges. He did not think East Texas gas could be marketed profitably, when gas producers with high pressure are available, and the oil wells should not be closed down to save the gas. The only other way to save it would be to return it to the sands, an expensive operation.

"It is impossible to save the gas and produce oil economically in East Texas," he said, "and gas never will be the major factor in its recovery. Water will wash the oil from the sands to the well and it will then be pumped, as at Powell and Luling."

GASOLINE PRICES CONTINUE ADVANCE

(Continued from Page 12)

strong statistical situation it might easily result in a temporary market flurry in which all classes of buyers including refiners would be scrambling to get immediate shipments on gasoline orders.

Buy Outside Crude

Faced with the threat of $1 a barrel crude at Oklahoma wells, refiners within the State and many outside the State operating with Oklahoma crude oil, have been giving consideration to other possible sources of supply. As explained last week, the average Oklahoma refiner dependent on the spot market for the sale of his plant products cannot pay $1 for crude oil at Oklahoma wells and operate without heavy losses. Thus, even if the crude oil becomes available at $1 as the result of the governor's action, most refiners will have the choice of shutting down or finding cheaper crude oil supplies.

The only possible supply outside the State is the East Texas area. It is known that several Oklahoma refiners have been investigating the feasibility of securing crude oil from producers in that area where production has increased so that it now exceeds the total production in Oklahoma. Considerable quantities have already been moved to North Texas refineries by tank car.

Very little East Texas crude oil has been shipped to Oklahoma refineries in the past so that the freight rate situation has not been entirely ironed out. Some reductions in rates have been announced and it is assumed that additional concessions could be obtained in line with those established to Gulf Coast, Arkansas and Middle West points, provided a large volume of business can be assured the railroads.

A rate of 14½ cents per 100 pounds (45.07 cents per barrel) from East Texas to Duncan, Okla., has been announced. A rate of 16½ cents (51.28 cents per barrel) is available to Ponca City, Enid, Garber, Okla., and Arkansas City and Coffeyville, Kans., refiners and 17 cents (52.84 cents per barrel) to several other Oklahoma and Kansas refining centers. Assuming that crude oil could be purchased for 20 to 25 cents per barrel loaded in tank cars at East Texas points this would mean a delivered cost to Oklahoma and Kansas refineries of from 65 to 80 cents per barrel. This compares with costs ranging from 40 to 65 cents per barrel under the present postings in the two states and a cost around $1.25 per barrel provided a minimum price of $1 per barrel is established in Oklahoma.

Unless the refinery market improves it is doubtful if Oklahoma refiners will buy much East Texas crude oil if the Oklahoma wells are shut down. Crude oil at delivered prices of from 60 to 80 cents per barrel at Oklahoma is sufficiently close to the border line of plant loss and profit that some reductions would have to be made in the rail rates or the cost at the East Texas wells before it would be attractive to Oklahoma refiners. In this connection it is understood that at least two of the larger refiners are trying to work out a pipe line transportation movement north from East Texas fields to their plants. If the pipe line facilities are available this arrangement would reduce the transportation charge 15 to 20 cents per barrel.

Gasoline and Naphtha

A low of 3⅛ cents for U. S. Motor gasoline was well established in Oklahoma the first of the week. This was for spot material. For shipments over the month, higher prices were asked, indicating the sellers expect additional price increases. Many refiners are quoting 3¼ cents to their regular jobber trade. For high octane material with lower endpoints, the prevailing market was 3¼ to 3⅜ cents.

The 60-62, 437 endpoint was quoted over the same price range as the regular U. S. Motor grade and 400 endpoint was available at a low of 3¼ cents. The higher gravities were unchanged from last week. The Gulf Coast export prices on the higher gravities are about the same as those asked by Oklahoma and North Texas refiners. This simply means that refiners in the latter areas cannot hope to get any export business until the export situation improves or the inland prices are reduced. The domestic demand for the higher gravities continues light.

Although the demand for naphtha has not been especially active, the supply in Oklahoma is limited and the refiners have usually made the same price advances that they have in U. S. Motor. Refiners of the cleaners', painters' and other special naphthas have generally had a dull summer and many in Oklahoma and other areas have been compelled to reduce their output, which has meant an increase in their regular gasoline production.

Natural Gasolines

Natural gasolines again advanced rapidly. On Tuesday, a low of 3 cents was established for Grade AA in Oklahoma, Grade A 3¼ cents and the remaining grades 2⅞ cents. North Texas and North Central Texas prices were from one-eighth to one-fourth cent lower.

Buyers over the past week have found little spot natural gasoline available. Several natural gasoline manufacturers have found it necessary to buy from other manufacturers due to the reduced output of their plants brought about by shutting down of wells. Should there be a general shutdown in the Seminole and Oklahoma City Field as a result of the governor's action, this shortage would become more acute and it is difficult to predict where the price advances might stop.

Other Products

Most of the trade agree that the kerosene situation is stronger than it has been in several weeks. Price ranges have not changed but less is heard of price cutting in Oklahoma, although the Kansas market appears easier. Specification 41-43 water white kerosene is bringing a low of 1¾ cents in Oklahoma and a high of 2 cents for interstate shipment.

The fuel market has not changed. There is a fair demand for all residuum fuel oils, gas oil and distillates of low cold tests but this business is not sufficiently large to bring price increases. High cold test fuels continue to be a drug on the market. With these eliminated, it is certain that prices on other grades would advance. Many buyers who normally insist on low cold test fuels are "getting by" with the high cold test material due to the low prices.

Prices on the fuel oils under 30 cold test range 20 to 40 cents per barrel, depending on gravity, and high cold test material is from 5 to 10 cents per barrel less. Gas oils range up from five-eighths cents to 1⅛ cents, the latter being low cold test, straw color furnace oil.

Except for the improved position of bright stocks there were no changes in the lubricating list. Any sustained improvement in that product would aid neutral oils and steam refined stocks.

Except for the improved position of bright stock there were no changes in the lubricating list. Any sustained improvement in that product would aid neutral oils and steam refined stocks.

The eastern market for petroleum wax is improving and there have been more inquiries for Mid-Continent stocks. These inquiries are coming from buyers who wish to buy 124-126 in barrels at 1¾ to 2 cents at coastal points. This means 1½ to 1¾ cents at Oklahoma points. Few actual sales at any price are reported.

THE "GO-GETTERS" OF THE PETROLEUM INDUSTRY IN EAST TEXAS

A group of the oil scouts who hold check meetings at Tyler, Tex., every Thursday. Top row, left to right: J. H. King, Magnolia Petroleum Co.; Charles White, Vacuum Oil Co.; M. B. Huey, Magnolia Petroleum Co.; Don Mathis, Republic Oil Co.; Mr. Morriston, Big Indian Syndicate; Fred Schroeder, United Gas Co.; George Hanna, Humble Oil & Refining Co.; Gene Morehead, Gulf Production Co., chairman of check meetings; Henry Conway, Amerada Petroleum Corp.; Frank Shaw, Tidal Oil Co.; B. B. Brawley, Barnsdall Corp.; Bill Hancock, Kirby Petroleum Co.; Joe Blank; Mr. Simmons, H. C. McBride, Inc.; and Charles Bradley, The Texas Company. Kneeling: Ben Nash, Houston Oil Co.; and C. A. Strahan, Atlantic Oil Producing Co. Bottom row, left to right: H. Boyd, Vacuum Oil Co.; E. A. Cabiness; E. L. Smith; F. E. Swenson, Mid-Continent Petroleum Corp.; M. J. Bonham, Continental Oil Co.; Bob White, Prairie Oil & Gas Co.; Jack Sample, Jerry Baldwin, H. C. Castle, Charles Edgerton, and C. O. Day.

TANK WAGON CHANGES

(Continued from Page 102)

the station price 2 cents in Birmingham, Ala., to 14 cents, July 21. On July 29 the tank wagon and station prices were then advanced to 15 cents. On the same date the gasoline tank wagon and station prices were advanced 1 cent in Montgomery and Mobile, Ala., to 17 cents.

Florida gasoline tax was raised to 7 cents August 1 and tank wagon and station prices were advanced accordingly.

Atlantic Refining Co. reduced the station prices in Pennsylvania and Delaware 1 cent July 29.

Continental Oil Co. reduced the gasoline tank wagon and station prices 1½ cent in Boise, Idaho, making the new prices 18 and 21 cents July 23. On the same day the tank wagon and station prices were reduced in Twin Falls, Idaho, to 15 and 18 cents.

Standard Oil Co. of Louisiana reduced the gasoline tank wagon and station prices in New Orleans, La., July 30 to 14.5 cents each.

Continental Oil Co. advanced the gasoline tank wagon and station prices generally in Utah and Idaho. At Salt Lake City these were advanced 6½ cents to 17½ and 20½ cents. In Twin Falls these prices were advanced 2 cents to 17 and 20 cents.

GULF COAST OIL MAN DIES

HOUSTON, Tex., Aug. 3.—George Jones, aged 47 years, scout for The Texas Company, died at his home in East Columbia following an extended period of ill health. Mr. Jones had been in the oil business and in the service of The Texas Company for many years. He was an experienced driller and operator for this company during the boom days of West Columbia but due to an injury which prevented further work in that capacity he was given scouting duties. He was recognized as one of the most able scouts on the Gulf Coast. He is survived by his widow and two small children.

ASKS PRESIDENT TO FIX EACH FIELD PRICE

(Continued from Page 109)

low and is causing serious loss to the State of Wyoming by lowering the assessed valuation of the State and lessening the funds available.

State Cannot Curtail

"The State cannot curtail production operations upon its school section without serious loss through drainage from wells located on adjoining government land.

"I urgently recommend, first, that the Federal Government through you and the Secretary of the Interior exercise the right expressly reserved by law and the terms of the government leases granted upon the Salt Creek Field area so as to insure the sale of the production from the Salt Creek Field at a reasonable price and the safeguarding of the public welfare.

"Second, that pending further investigation as to the value of Salt Creek crude that the minimum price be fixed at no less than $1 a barrel and,

"Third, that the secretary of the interior immediately cause necessary investigations to be made for the purpose of determining the present value per barrel of oil produced from each of the Wyoming fields in which government oil leases are operated, and

"Fourth, that upon completion of such investigation by the department of the interior that you, through the secretary of the interior, cause minimum prices to be fixed upon oil produced from government leases in all of the various Wyoming fields for the purpose of insuring reasonable prices."

Following the dispatch of the telegram, state officials were quoted as saying that drastic action to relieve the oil situation in Wyoming, it was believed, was being considered by Governor Clark if the Government does not act upon his request to increase the price of crude oil from public lands. If the Federal Government would set a minimum price of $1 for Salt Creek crude, the State would immediately take similar action on its land in that field. There appears to be a difference of opinion as to whether the State can take any action to force higher prices. An alternative is for the State to close down its oil lands, or not renew state leases except with a minimum price established in same.

Osage Basin Case

The action of the Wyoming officials caused some surprise among operating officials, but there was no evidence that they considered any drastic action possible. Just upon what ground it is hoped the officials at Washington may act is not clear. A decision of the District Court of Appeals of the District of Columbia handed down on April 7, 1930, in the case of The Texas Company versus Ray Lyman Wilbur, Secretary of the Interior, regarding the price of crude in the Oregon Basin Field does not appear to be applicable to the Salt Creek situation. In that case The Texas Company contracted with the Cody Petroleum Co. for a minimum of 1,000 bbls. daily from a government-owned tract in the Oregon Basin Field at 53 cents per barrel, the contract to run for five years. The Secretary of the Interior refused to approve this contract and took the position that he would not approve a contract that provided for the sale of oil at less than 85 cents per barrel. The Texas Company denied that the secretary had the right to fix the price at which an operator shall sell oil owned by him after deducting the Government's royalty, under the provisions of the general leasing act of Feburary 25, 1920, and the lower court granted an injunction. The higher court reversed this decision and remanded the cause with an order to dismiss the case. Since then the price of crude in Oregon Basin has been set by the Secretary of the Interior.

In that case the contract had not been approved by the secretary and the issue hinged largely upon his authority in approving a contract under the general leasing act. The situation in Salt Creek is different and the Oregon Basin case, it is believed, has no bearing on it. In Salt Creek the Government takes its royalty in kind and disposes of it to the highest bidder under contracts that already have been signed and approved.

Salt Creek Contract

The Sinclair Crude Oil Purchasing Co. was awarded the contract for the purchase of the Salt Creek royalty oil under competitive bidding several years ago. This contract was cancelled in 1928 and new bids were called for. These bids were opened on December 10, 1928, and the contract was awarded to the White Eagle Oil & Refining Co. and The Texas Company on a joint bid of 21¾ cents premium over Mid-Continent posted prices for oil of the same gravity. The contract runs until December 31, 1931. The Midwest Refining Co. bid the posted price for the royalty oil. W. L. Walls, a Cheyenne attorney, submitted a bid of 42 cents premium per barrel, but this was rejected by the Government. This contract is in full force and it is not apparent how the Government could take any steps to cancel it.

A similar situation exists in regard to Section 36-40-79, the state-owned tract in Salt Creek. The lease on this tract was awarded to the Midwest Oil Co. in the fall of 1929 by the Wyoming State Land Board following the submission of competitive bids. Bids for the State's royalty oil from the leases were also called for at the same time. The Midwest's bid was a royalty of 65 per cent for the lease with the right to purchase the royalty oil at the Prairie Oil & Gas Co.'s posted Mid-Continent prices for crude of the same gravity. This contract and lease still has several years to run.

Fixed Price Closes Plant

Announcement was made in Cody, Wyo., by J. Pendleton Beall, superintendent of The Texas Company refinery there, that his company will shut down all operations of its plant and that no more crude oil from the Oregon Basin Field would be refined in Park County by The Texas Company. He stated it would require about 10 days to effect the shutdown.

Shipments of road oil will be made from the plant during August and September, and according to Mr. Beall, it is possible that the plant will be operated for a few months each year for the manufacture of road oil, but he stated that the oil industry does not now warrant the plant's continued operation for the manufacture of all Texaco products.

The Cody Enterprise states that "probably the biggest factor in the closing of the local refinery has been the high price set for crude oil from Oregon Basin. When this field was first opened, the Government fixed a price at 85 cents per barrel as the price for which this oil must sell. By consistent effort the price has been forced down to 60 cents, which is still far in excess of what the same quality oil may be purchased for from other fields. This government requirement practically forces the Oregon Basin Field out of the picture from a sales standpoint and makes it prohibitive for The Texas Company to continue operations here.

OIL MAN'S CALENDAR

AUGUST

24—Denver, Colo., Oil States Advisory Committee.

31-Sept. 4—Buffalo, N. Y., eighty-second meeting, American Chemical Society.

SEPTEMBER

1-3—Cleveland, Ohio, twentieth national aeronautic meeting, Society of Automotive Engineers.

7-11—Kansas City, Mo., Southwest Power Conference.

9—Louisville, Ky., Kentucky Petroleum Marketers Association.

9-11—Denver, Colo., North American Gasoline Tax Conference.

16-18—Atlantic City, N. J., annual meeting, National Petroleum Association, Hotel Traymore.

17-18—Detroit, Mich., Manufacturers Section, A.G.A., Book-Cadillac Hotel.

23-26—Asheville, N. C., American Trade Association Executives.

28-29—Atlantic City, N. J., National Association of Motor Bus Operators, Hotel Ambassador.

OCTOBER

2-3—Houston, Tex., Petroleum Division, American Institute of Mining and Metallurgical Engineers.

12-16—Chicago, National Safety Council.

12-16—Atlantic City, N. J., American Gas Association.

14-16—Pittsburgh, Pa., Society of Industrial Engineers.

27-29—Washington, D. C., S.A.E. National Transportation and Maintenance Committee, Shoreham Hotel.

NOVEMBER

10-12—Chicago, twelfth annual meeting, American Petroleum Institute, Stevens Hotel.

16-21—Pittsburgh, Pa., third International Conference on Bituminous Coal, Carnegie Institute.

DECEMBER

7-12—Atlantic City, N. J., Trade Show, Motor and Equipment—National Standard Parts Association.

9-11—Atlantic City, N. J., American Institute of Chemical Engineers.

28-31—Tulsa, Okla., Geological Society of America, Mayo Hotel.

1932

MARCH

17-19—Oklahoma City, Okla., American Association of Petroleum Geologists.

CRUDE OIL PRICE CHANGES

(Continued from Page 102)

ed 36-36.9 degrees at 52 cents; 37-37.9 degrees at 53 cents; 38-38.9 degrees at 54 cents; 39-39.9 degrees at 55 cents, and 40 degrees and above at 56 cents. This is a 9-cent increase over The Texas Company's schedule posted on July 23.

The Seep Purchasing Agency (South Penn Oil Co.), Tide Water Pipe Co. and Pure Oil Co. posted 20-cent increases in all Pennsylvania Grade oil pools on July 28. The new prices are as follows: Seep Purchasing Agency: Pennsylvania Grade oil in National Transit lines, $1.55; in Southwest Pipe Line lines, $1.40; in Eureka Pipe Line lines, $1.30; in Buckeye Pipe Line Lines $1.15. The Seep Purchasing Agency also posted a 15-cent advance on Corning, Ohio, crude to 65 cents. Tide water Pipe Co.: Allegany, N. Y., crude $1.80; Bradford, Pa.-New York crude $1.80. Pure Oil Co.: Cabin Creek, W. Va., $1.30; Kelly Creek, W. Va., $1.30, and Bradford Hollow, W. Va., $1.30.

In the Rocky Mountain area the following new prices were posted by the Mid West Refining Co. and Continental Oil Co.: Mid West—Cat Creek, Mont., 65 cents, a 20-cent advance; Iles, Colo., 45 cents, a 15-cent increase; Fort Collins, Colo., 35 cents, a 20-cent increase; Florence, Colo., 32 cents, a 20-cent increase; Wellington, Colo., 30 cents, a 20-cent increase; Frannie, light, Wyoming, 40 cents, a 20-cent increase; Greybull, Wyo., 65 cents; Artesia, N. M., 25 cents; Maljamar, N. M., 20 cents; and Jackson, N. M., 25 cents. The Midwest and Ohio Oil Co. pay the same prices in the fields in which they both purchase oil.

The Stoll Refining Co. advanced Oil City, Ky., to 50 cents on July 27.

The Texas Company posted 37 cents for Markham, Tex., crude on July 28.

The Magnolia Petroleum Co., on July 30, posted the following prices in North Louisiana and Arkansas: Bull Bayou, 40 cents; Haynesville, 32 cents; Pine Island, 36 cents; Cotton Valley, 30 cents; El Dorado, 31 cents; Rainbow, 30 cents; El Dorado east field 30 cents; and Smackover, 30 cents.

Joseph Seep Purchasing Agency advanced all Pennsylvania Grade crude 15 cents August 3.

NO NEW LAWS NEEDED SAYS H. F. SINCLAIR

AUSTIN, Tex., Aug. 3.—In response to a telegram requesting him to appear and testify before the senate committee inquiry into the oil industry, H. F. Sinclair sent that body a written statement giving his views. He declared be believes the present conservation and common purchaser acts of Texas are ample to control conditions in East Texas and other fields if these laws are properly enforced. He said that of the several bills which have been introduced in the legislature none of them provides remedies for existing evils in the industry.

"In my opinion the cause of the breakdown of proration was the attempt to force the taking of oil from certain fields to the disadvantage of other fields," his statement read. He declared that there is no reason to bar East Texas from the advantages it possesses by reason of its great potential supply of oil and nearness to tidewater. The State already has a statute defining and prohibiting waste, and a common purchaser act which prevents discrimination. If both these laws were properly enforced they would result in the proper effective operation of the industry, he said.

What is needed is better administration of the laws. Economic conditions cannot be changed by law, he asserted. He said that while there is room for improvement in the oil industry, he is impressed with the failures that have been met with in attempting to regulate its affairs by law. It was his opinion that the prevalent idea that some administrative commission should be given sweeping powers over the production of oil is dangerous doctrine, as carrying it in effect would result in the destruction of property rights and would be unfair to the interests which it seeks to benefit.

"There is nothing in the bills that I have read," states Mr. Sinclair, who is chairman of Sinclair Consolidated Oil Corp., "that goes to the real evil of the present situation. Not only is this true but in the orders that have been issued recently effecting East Texas there is actually a premium put upon over-drilling. Slow up the drill and you have solved the problem of overproduction. Continue to permit overdevelopment and then seek to dam it up by law and I believe you will continue to meet failure in your efforts toward conservation. Some application of unit operation contains far more promise of success than any effort based upon the fixing of imaginary potentials or production with arbitrary allowables based thereon.

"To sum up my views, I am in favor of the elimination of waste in the production of oil; I am in favor of the determination of allowable production in accordance with market demand, providing market demand is not arbitrarily fixed to favor one field as against another. I am against conferring arbitrary powers upon any commission for the purpose of attempting to enable any body of men to overcome economic laws and the natural, normal trend of the production of oil. Such an attempt, in my opinion, is foredoomed to failure."

PERUVIAN TAX ASSESSMENT

The Peruvian government has issued a decree under which the export tax on petroleum and its derivatives hereafter are to be assessed at the rate of 7 shillings a ton, or approximately 24 cents a barrel, equivalent to the amount in Peruvian currency fixed at the time the present tax law was enacted. The decree argues that the amounts of export taxes are based on the value of the products in the sale markets in relation to cost price, and that therefore the tax should be fixed in foreign currency and not in the Peruvian currency which is subject to the fluctuations of the market.

COLON OIL PRODUCTION

Production of Colon Oil Corp.'s subsidiary in Venezuela for the week ended July 24 was 143,150 bbls.

GOV. MURRAY SHUTS DOWN WELLS AND ESTABLISHES MARTIAL LAW

(Continued from Page 13)

laws of the State to be faithfully executed, and shall conduct all intercourse and business of the State * * * and shall be the conservor of the peace throughout the state"; and,

Whereas, the laws of the State of Oklahoma have provided for conservation of oil and gas, and have enacted by Article 9 of the constitution, and by sundry statutes, provisions prohibiting monopolies, and punishing the violation of the same, said law (Section 7,955, Statute 1921), for conservation of oil, reading as follows:

"7,955. That the taking of crude oil or petroleum from any oil-bearing sand or sands in the State of Oklahoma at a time when there is not a market demand therefor at the well at a price equivalent to the actual value of such crude oil or petroleum is hereby prohibited * * *"

Whereas, the enabling act, granting the right to organize a state government, did grant to the State, in trust, certain lands, to be used for public education, and for other purposes, which enjoined upon the State a sacred trust; and,

Whereas, the constitution, in accepting said trust, undertook and obligated itself, as a sovereign state, to protect said lands, conserve their incomes for common schools, and to devote the revenue thereof to the purposes named in the grant; and,

Whereas, the Sinclair Oil & Gas Co. has leased certain of said public school lands for the purpose of drilling for oil and gas, agreeing to pay the State, under contract therewith, a certain per cent of the market price of said oil; and, for lack of market, this legacy to the school children is filched by said company; and,

Whereas, the price of crude oil has been reduced to such a low price that the independent producer has not been enabled to obtain a price equal to the cost of production, while the monopolistic purchasers and producers, who produce oil, control pipe lines, own and operate refineries and filling stations —all the enterprises of production and sale—have, through such monopolistic production and control, increased their earnings, and threatened utter destruction of the independent producers, who own neither pipe lines, refineries, nor filling stations; and,

Whereas, the larger portion of said independent producers have closed down their wells, by reason of that fact, while the Sinclair Oil & Gas Co., the Champlin Refining Co., and others, in combination therewith, exercising a monopolistic control of manufacture, and sale of oil, continue to take from their wells oil, to the detriment of the adjoining lands operated by the independent producers, taking thereby property without "due process of law," in violation of the Fourteenth amendment to the constitution of the United States, nor can the independent producers secure justice or equity from the courts of the land, so that they must needs rely upon the chief magistrate of the State to exercise the supreme executive power, in order to secure that equity and justice to which they are entitled, under the constitution and laws; and,

Whereas, the shutting down of all producing wells of the State, under proration orders; that is, all wells except the stripper wells, is a measure of conservation, and enjoined by law, and does not take from either or any of them any of their property, but holds it in its natural state and condition, conserving it until the waste produced by lack of market can be prevented; and,

Whereas, the closing down of all such wells does no injury to them, or either of them, independent or others, and does not take from interstate commerce any oil, because it has never reached the pipe line for the purpose of interstate commerce, nor does it take from any owner any valuable property, but, in keeping with the law, conserves the natural resources of the State, in which the State is vitally interested, possessing a vested property right therein, for the reason that when these natural resources, oil and gas, are exhausted, it cannot longer collect revenues therefrom; and that, at the present market, the per cent of the tax collected is too insignificant for the wholesome public benefit to which the State is entitled; nor do the future children of the State receive that amount of royalty to which they are entitled, by reason of the discovery of oil and gas under that portion of the domain of the State owned by the State for common schools, and held in trust for them; and,

Whereas, the Fifth State Legislature passed an act, which act was approved by Gov. R. L. Williams, in order to vitalize the functions and powers of the state militia, or the National Guards, and the armed forces of the State, authorizing the governor in such cases as that now under discussion, to call out the National Guards or the state militia; said law is known as Chapter 61 of Oklahoma Statutes, 1921, and, in part, reads as follows:

"7,503. The governor of the State shall be the commander-in-chief of the militia, and as such shall have supreme command of the military forces of the State while in the services of the State, or until they are ordered and accepted into the service of the United States. While in the service of the State, he shall have power to muster out any organization of the State, discharge enlisted men as provided herein, and perform such other acts in keeping with office of commander-in-chief, subject to the laws of the United States and regulations prescribed by the President of the United States."

"7,534. It shall be the duty of the governor and he is authorized and required in case of war, invasion, insurrection, or breach of the peace, or imminent danger thereof, or any forcible obstructing of the execution of the laws or reasonable apprehension thereof, and at all other times he may deem necessary, to order on duty the National Guard or any part thereof. No member thereof who shall be ordered out for such duty shall be liable for civil prosecution for any act done by him in the discharge of his military duty on such occasion * * *"

"7,537. Active members of the National Guard shall be privileged from arrest during their attendance at drills, parades, inspections, encampment, and while on active duty, and in going to and returning from the same, except in cases of treason, felony and breaches of the peace."

"7,538. Any person who shall wilfully and unnecessarily interfere with the militia or any part thereof while on drill, parade, or in the performance of any military duty shall be guilty of a misdemeanor;" and,

Whereas, a corporation (an artificial person) is created by law and has no powers outside of the expressed authority of the law, while a sovereign state, or the people thereof, possess all powers not by them delegated away, although some of the inferior federal courts have for decades assumed to give corporations a footing above the sovereign states, and in excess of the law chartering them through the abuse of injunctions, doubtless because of the well-known fact that many such judges owe their positions to the influence of corporations; therefore, in a contest between them and the welfare of a sovereign state, and its people, there is but one course for an officer, sworn to obey the constitution of his state and of the United States —usurpation by judges, nullifying legislative acts—may take from the citizen, for a time, his constitutional guarantees, but does not change the constitution or the law; and,

Whereas, every well-regulated government possesses the power to meet and correct every evil that may confront such government and its people, otherwise, it is not a government; and,

Whereas, the said Sinclair Oil & Gas Co., the Champlin Refining Co., and their associates, and the pipe line companies, have access to the courts, state and federal, and they have acted upon the assumption that they were superior to and possessed power beyond the sovereign power of the State of Oklahoma and its two and one-half millions of people; it becomes therefore necessary for the governor of the State, exercising the supreme executive power granted in the said Section 2 of Article 6 of the constitution to give this order, closing down all oil wells except the stripper wells, in order to protect the school children of the State, conserve its natural resources, and prevent their exhaustion and waste; to protect the rights of the taxpayers in and to the revenue from such resource, and to uphold the guarantees of the Fourteenth amendment to the constitution of the United States to the independent producers against taking their property, without "due process of law," and to establish justice and equity for them, and to protect the citizens of the State from the general monopolistic control of their natural resources, by corrupt combinations of capital, who produce, transport, refine, and sell oil which constitute a power of control monopolistic in its nature, destructive of the independent producer, whose ingenuity and enterprise, with the uses of all the funds at his command, have made possible at all the development of the natural resources of this State. They pioneered the business and are entitled to protection, which, by "judicial juggling," through injunction, has been denied them, and left the umpire and proration officers powerless; and,

Whereas, the independents have promised to keep their men employed, while the monopolistic companies have cut down wages and reduced the number of employed, some of 10 to 15 years' service for their companies, which has caused threats of dynamiting their pipe lines, and other destruction of their properties (which properties it is my duty to protect), as reported to me by my secret scouts, to the extent that a continuation of present conditions and markets is likely to produce mob violence, unless all these wells are at once closed down:

Now, therefore, I, William H. Murray, the governor of the State of Oklahoma, do hereby and hereon, by authority of the constitution and the laws afore-recited, exercise the supreme executive power as chief magistrate of the State of Oklahoma, and do declare martial law on all and around the oil wells hereinafter named, for a distance of (50) fifty feet around each and all of said oil wells of the companies, and number of wells, as hereinafter named, and which shall include all oil wells under "proration order" of the Corporation Commission; that is to say, all except the stripper wells (stripper wells are those producing 25 bbls. or less), together with the fields wherein they are located.

The said military order and military control, and military zone shall cover all of said wells in the fields named, and of the companies named, and of all other wells under proration, to a distance of 50 feet from the center of the well, provided this order shall be relaxed, if there be within any said military zone of 50 feet any stripper well, to the extent of permitting the owner or operator of said "stripper" well to operate and control said stripper well; and, whereas, if said "stripper" wells are closed in, they would be destroyed, and the shutting of them down would not be an act of conservation, and therefore, they are exempt from this order.

It is further ordered that Brigadier General Charles F. Barrett, the adjutant general, shall place the officers and men of the National Guard and they are hereby directed and ordered to establish military control over all oil wells of each field or zone, above named, and to maintain such military control against all orders whatsoever, except an order from the President or the Supreme Court of the United States, until further ordered.

Said officers and men of the state militia or National Guards, when so placed, are to be under the direct control and subject to the direct orders of the commander-in-chief, so soon as the units are placed by the adjutant general.

Done at the state capitol, in Oklahoma City, Okla., on this, the fourth day of August, A. D., 1931.

By the governor of the State of Oklahoma:

(Signed) WILLIAM H. MURRAY,
Commander-in-Chief of the Militia.

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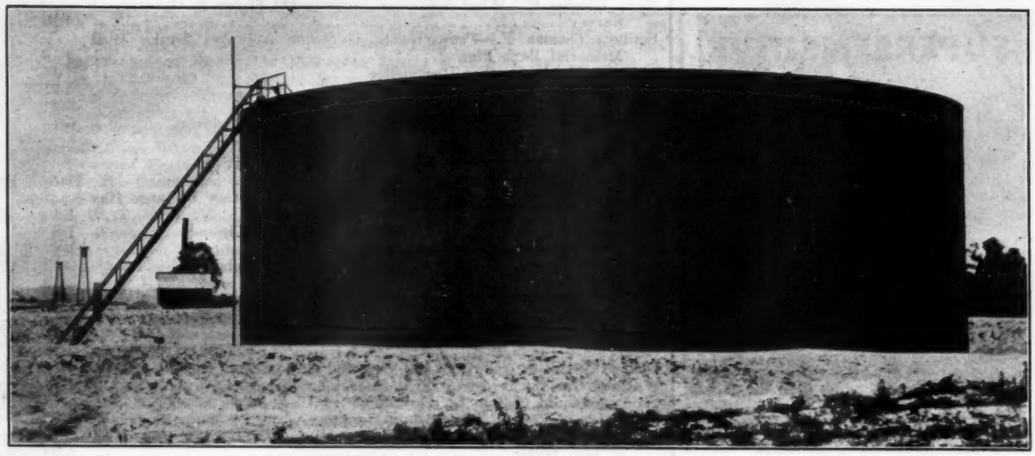

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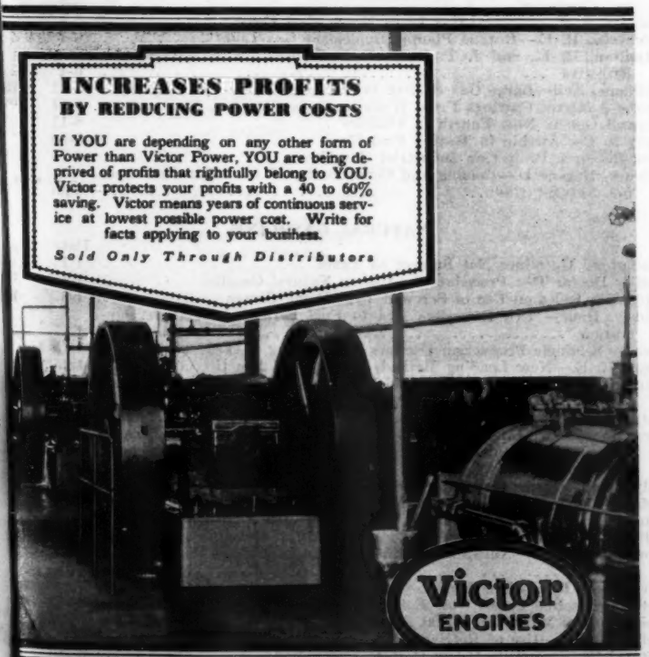

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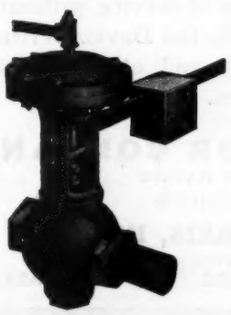

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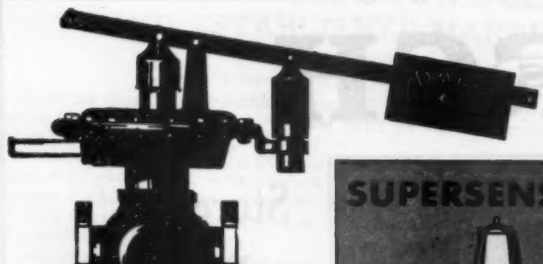

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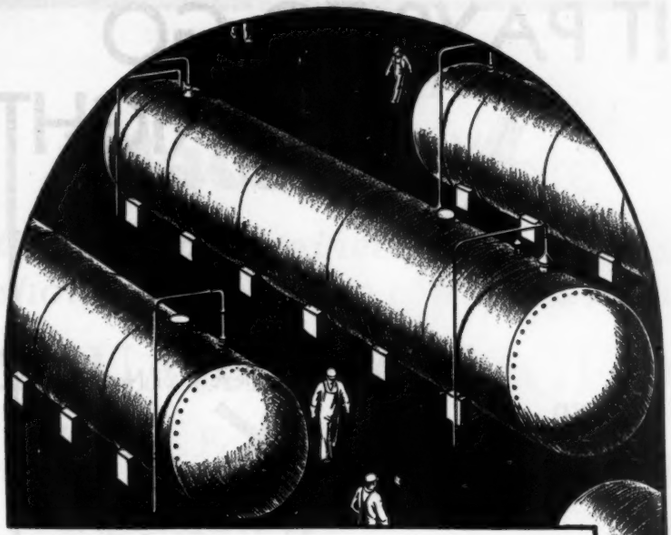

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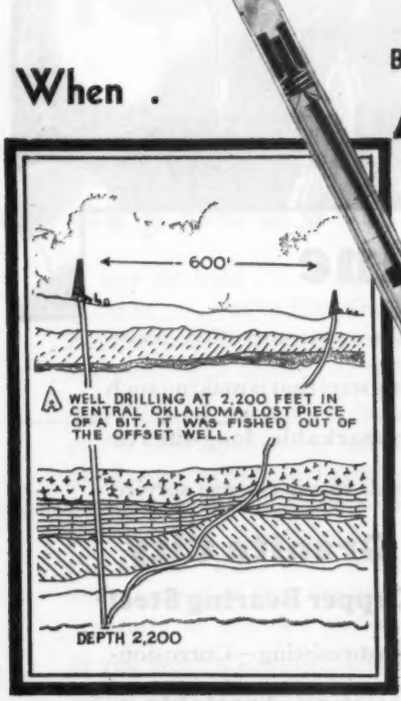

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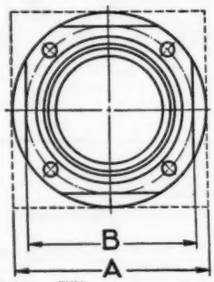

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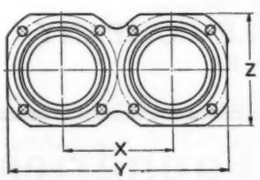
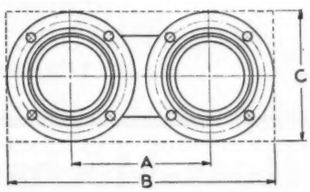


Square-flanged Simplex return bend.



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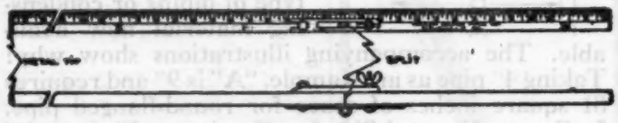

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Bredberg, L. E.—Southwest Welding Association Holds Its Annual Conference	4-30	27
Keplinger, C. H.—Study of Stresses and Strains in Welded Unfired Pressure Vessels	4-30	90
Raymond, G.—Code Specifications Proposed for Shield Welded Pressure Vessels	5-14	144
Adams, E. L.—Recondition Line by Welding Collars	6-4	T-61
Carter, G. O.—New Development in Acetylene Welding	6-4	T-89
Taylor, C. M.—Progress Made in Electric Arc Welding	6-4	T-115
Graphic Formula for Determining Specifications for Welding Steel	6-11	88

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 35)

MARION COUNTY

Midwell's No. 1 La Master, NW cor. Sec. 31-22-4 ..... Shut down 650 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w ..... T. D. 3,640 ft.; shut down.

MORRIS COUNTY

Urschel et al's No. 1 Bersuch, NW SE NW Sec. 10-17-7.. Machine.
Hankerson et al's No. 1 Cessman, SW SE Sec. 24-16-9 ..Underreaming 3,478 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w .... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 .... Shut down 1,050 ft.
Fields' No. 1 Usker, SE cor. Sec. 35-16-17 ..... Shut down 400 ft.

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor. Sec. 3-2-35w. Shut down 3,501 ft.

RICE COUNTY

Detrick & Langston's No. 1 Purcell, NW cor. Sec. 33-19-9w ..... Conglomerate 3,225-46 ft.; show oil and water; T. D. 3,300 ft.
Cross et al's No. 1 Sharp, SE NE Sec. 13-20-10w ..... Show oil 3,107-15 ft.; Siliceous 3,-230-36 ft.; estimated 1,500 bbls.; shut in.
Allison-Fitzwilliams' No. 1 Blake, NE NW Sec. 9-18-10w. Shut down 2,750 ft.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW Sec. 17-19-16w ..... Drlg. 3,725 ft.

RUSSELL COUNTY

Agate Oil & Gas Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w ..... Shut down 3,274 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w .... Show oil 3,090-94 ft.; shut down. 3,504 ft.; plugging back to 3,-189 ft.

SEDGWICK COUNTY

Magnolia's No. 1 McLaughlin, NW cor. 31-28-1w ..... Drlg. 1,360 ft.
Buck et al's No. 1 McNananan, NE NW NW Sec. 2-29-1. Shut down 2,325 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w ..... Fishing 2,710 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW SW Sec. 27-7-26w.. Shut down 2,445 ft.

STAFFORD COUNTY

Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE Sec. 11-24-13w ..... Shut down 2,900 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE Sec. 10-33-39w .. Shut down 5,521 ft.

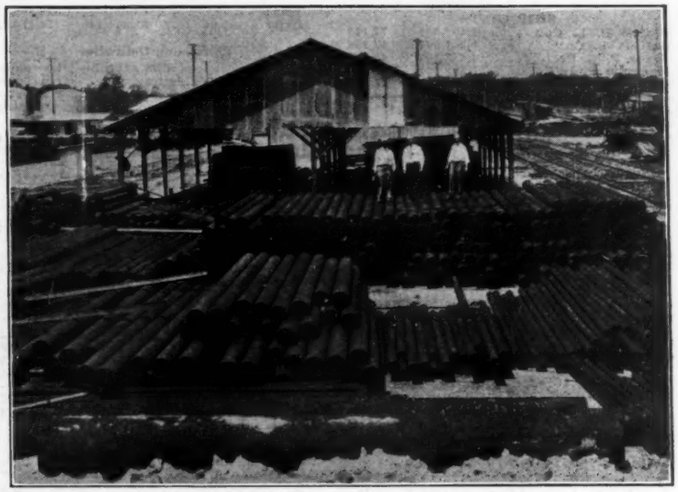
SUMNER COUNTY

Tighe et al's No. 1 Thieson, C NW SE SE Sec. 22-34-2 ...Drlg. 1,161 ft.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW Sec. 6-34-2 ..... Shut down 50 ft.
Spencer et al's No. 1 Porter, NE SW Sec. 13-33-4w ..... Shut down 2,550 ft.
Otstot et al's No. 2 Marlow, C SE NW SE Sec. 22-33-3w. Shut down 4,070 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE Sec. 16-3-3 .... Shut down 1,720 ft.

BIG SAVINGS ON PIPE



2,000 Tons Oil Well Casing and Line Pipe

This is new pipe made by National Tube Company and Jones & Laughlin Steel Corp. that has been salvaged from a sunken ship. Threads and couplings are in perfect shape—entire pipe is oiled—looks like new. Offered at big reductions from stock at Municipal Docks, Jacksonville, Fla.

O.D. SEAMLESS CASING
(Lengths, 21′ to 39′)

	Ready for Shipment
8⅝″—Weight, 44 lb. per ft.	5,548′
9⅝″—Weight, 48 lb. per ft.	9,420′
5 ″—Weight, 15 lb. per ft.	5,681′

O.D. LINE PIPE
Beveled Ends Ready for Welding
(Lengths, 25′ to 37′)

	Ready for Shipment
6 ″—Weight, 19 lb. per ft.	376′
8 ″—Weight, 25 lb. per ft.	1,739′
10¾″—Weight, 40 lb. per ft.	4,271′
12 ″—Weight, 45 lb. per ft.	100′
16 ″—Weight, 75 lb. per ft.	102′
24 ″—Weight, 100 lb. per ft.	77′

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PIPE TRADING CORP.

800 East 18th St. Kansas City, Mo.

LONG DISTANCE PHONE, GRand 0844

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS

Pipe Line Report for Month of May

RUNS

	Month (bbls.)	Dly. av. (bbls.)
Prairie P. L. Co.*	843,200	27,200
Gulf P. L. Co.	1,273,488	41,080
Texas P. L. Co.	747,481	24,112
Magnolia P. L. Co.	1,662,690	51,697
Empire P. L. Co.	2,262,945	72,676
Cosden P. L. Co.	660,779	21,315
Stanolind P. L. Co.	3,010,100	97,100
Oklahoma P. L. Co.	2,342,097	75,554
Other lines	7,998,000	258,000
Total May	20,751,690	668,764
Total April	19,980,617	666,020
Difference	751,073	2,744

SHIPMENTS

Prairie P. L. Co.†	2,400,581	77,438
Gulf P. L. Co.	1,361,964	43,934
Texas P. L. Co.	1,335,197	43,071
Magnolia P. L. Co.	1,502,701	48,474
Empire P. L. Co.	2,356,367	76,012
Cosden P. L. Co.	649,137	20,940
Stanolind P. L. Co.†	3,812,442	122,982
Oklahoma P. L. Co.	2,197,196	70,877
Other lines*	7,564,000	244,000
Total May	23,179,595	747,733
Total April	23,028,313	767,610
Difference	151,282	19,882

STOCKS

Prairie O. & G. Co.*	37,560,000
Gulf P. L.-Gypsy Oil Co.	8,943,856
The Texas Company	3,256,837
Magnolia Petroleum Co.	6,303,552
Empire P. L. Co.	5,331,736
Mid-Continent Petroleum Corp.	3,706,274
Stanolind Crude Oil Pur. Co.*	18,450,000
Oklahoma P. L. Co.	3,731,651
Carter Oil Co.	5,513,313
Other lines*	30,094,000
Total May	114,870,509
Total April	115,563,208
Difference	692,699

*Estimated. †Prairie and Stanolind shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF JUNE

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for May and June:

	May, 1931	June, 1931
Nat. Transit	143,585.75	142,665.44
S. W. Pa. P. L.	74,718.32	74,374.26
Eureka P. L.	293,679.22	303,225.17
Buckeye P. L. (Macksburg)	292,687.45	293,480.77
Buckeye P. L. (Cleveland)	13,403.00	11,410.57
Buckeye P. L. (Lima, etc.)	80,369.42	87,182.23
Indiana P. L.	3,425.44	3,000.67
Cumberland P. L.	158,976.48	156,303.08
N. Y. Transit	28,296.26	28,964.10
Tide Water P. L.	24,946.95	25,859.99
Pure Oil	188,974.65	173,774.98
Stoll Oil Ref.	26,609.87	.....
Bradford Transit	324,013.67	323,059.46
Total	1,653,692.08	1,623,300.72
Daily average	53,344.91	54,110.02

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for May and June:

	May, 1931	June, 1931
Nat. Transit	494,823.01	452,276.53
S. W. Pa. P. L.	442,582.39	446,843.13
Eureka P. L.	328,121.10	400,401.52
Buckeye P. L. (Macksburg)	231,067.12	265,663.53
Buckeye P. L. (Cleveland)	1,709.67	1,709.71
Buckeye P. L. (Lima, etc.)	1,588,532.48	1,950,031.09
Indiana P. L.	1,121,162.38	998,821.71
Cumberland P. L.	109,505.58	103,631.73
Southern P. L.	88,868.78	11,565.96
N. Y. Transit	191,931.04	169,549.34
Northern P. L.	177,918.97	144,262.80
Tide Water P. L.	454,064.43	472,572.62
Pure Oil	256,536.46	290,068.28
Bradford Transit	304,084.82	319,547.18
Tuscarora	385,769.63	307,326.68
Total	6,176,679.86	6,634,671.91
Daily average	199,247.74	221,155.73

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky and Indiana at the close of May and June:

	May, 1931	June, 1931
Nat. Transit	753,134.11	698,669.24
S. W. Pa. P. L.	512,838.77	410,763.21
Eureka P. L.	1,817,026.88	1,839,688.05
Buckeye P. L. (Macksburg)	370,904.34	373,836.66
Buckeye P. L. (Cleveland)	58,962.66	86,846.76
Buckeye P. L. (Lima, etc.)	3,641,367.87	3,163,645.51
Indiana P. L.	518,325.78	508,947.64
Cumberland P. L.	644,027.51	639,041.14
Southern P. L.	317,548.61	248,232.04
N. Y. Transit	126,136.64	156,733.77
Northern P. L.	339,978.15	282,847.01
Tide Water P. L.	863,211.61	836,307.12
Pure Oil	541,284.20	426,437.22
Tuscarora	13,462.07	12,683.45
Bradford Transit	210,020.88	238,670.71
Total	10,728,239.98	9,903,349.53
Decrease	316,247.61	824,890.45

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of May and June, showing gross stocks of above fields:

	May, 1931	June, 1931
Pennsylvania	3,895,594.08	3,682,748.26
Lima	792,443.56	763,086.16
Kentucky	654,328.32	649,341.95
Mid-Continent	4,854,341.47	4,391,327.49
Michigan	531,532.55	416,845.67
Total	10,728,239.98	9,903,349.53

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
Jan.	52,904	51,749	75,907	53,939
Feb.	57,002	51,833	79,256	55,163
Mar.	57,485	54,252	76,688	54,331
Apr.	56,812	58,444	84,536	54,914
May	62,067	59,902	70,546	53,344
June	58,230	58,833	75,430	54,110
July	57,144	66,087	68,921	.....
Aug.	57,745	66,087	54,291	.....
Sept.	53,487	67,316	56,593	.....
Oct.	54,100	76,093	58,179	.....
Nov.	53,865	74,831	52,333	.....
Dec.	52,025	74,561	53,999	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
Jan.	146,465	166,721	217,623	175,369
Feb.	167,368	169,387	224,355	183,494
Mar.	168,883	161,474	228,846	189,598
Apr.	172,935	169,737	241,845	191,450
May	180,559	184,281	248,383	199,247
June	188,024	185,404	234,401	221,155
July	189,470	194,763	207,094	.....
Aug.	192,853	194,946	205,506	.....
Sept.	194,138	201,214	193,999	.....
Oct.	176,000	191,367	157,675	.....
Nov.	176,898	202,743	146,638	.....
Dec.	173,572	186,257	143,001	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1929	1930	1931
Jan.	7,596,564	12,220,045	11,831,092
Feb.	8,738,835	12,991,561	11,506,489
Mar.	9,002,058	13,247,217	11,013,163
Apri.	8,978,172	13,233,961	11,044,487
May	8,903,560	13,052,953	10,728,239
June	8,921,275	13,396,855	9,903,349
July	9,211,595	13,268,562	.....
Aug.	9,440,643	13,047,051	.....
Sept.	9,443,067	12,812,018	.....
Oct.	9,441,101	12,437,555	.....
Nov.	9,868,538	11,851,380	.....
Dec.	11,353,953	11,751,952	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, July 1	606,780.26
Runs from wells	484,945.79
Regular deliveries	294,398.14
Other deliveries	224,888.00

The amount of Illinois oil run by the Tide Water Pipe Co. in June was 25,859.99 bbls. Deliveries were 25,859.99 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the rune and deliveries as follows:

1931—	Runs	Deliveries
June	510,805.78	320,258.13
1930—		
January	543,387.95	498,293.93
February	548,416.23	414,536.59
March	631,944.49	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,069.84
June	572,662.57	468,658.81
July	604,529.54	388,454.47
August	594,642.12	375,742.43
September	457,001.11	371,691.62
October	478,442.12	320,688.73
November	422,794.68	355,403.12
December	566,418.78	363,719.55
1931—		
January	468,423.04	669,573.19
February	429,284.54	461,262.85
March	434,638.23	356,663.26
April	421,814.98	282,532.65
May	433,231.80	322,513.95

Tide Water Pipe Co., Ltd., also delivered in June 172,608.35 bbls. Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
July	17,355	7,774	43,419	23,839	6,452	98,839	.....	.....	.....	.....	4,645	103,484
August	7,413	8,742	38,968	21,226	5,258	81,613	.....	.....	.....	.....	97	81,710
September	6,300	6,400	25,600	13,400	9,567	61,267	.....	.....	.....	.....	2,433	63,700
October	2,516	2,065	27,258	16,419	4,903	54,161	.....	.....	.....	.....	5,355	59,516
November	8,367	8,233	33,800	17,733	4,600	70,733	.....	.....	.....	.....	4,800	75,533
December	5,516	4,323	30,645	9,678	3,580	53,742	.....	.....	.....	.....	4,645	58,387
January	8,387	6,613	21,968	14,678	11,096	62,742	.....	.....	.....	.....	6,129	68,871
February	6,777	2,713	29,143	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,484
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	2,355	47,258
June	4,367	.....	25,100	6,333	3,500	39,200	.....	.....	.....	.....	.....	39,200

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
July	42,097	9,548	154,968	37,935	36,032	280,500	5,678	9,161	2,097	2,387	19,322	299,903
August	39,032	4,484	145,613	32,355	25,097	247,581	8,419	9,323	8,548	3,000	29,290	276,871
September	38,867	8,533	150,933	34,500	25,567	258,400	6,433	12,234	.....	3,800	22,467	280,867
October	19,339	11,742	146,194	35,355	24,967	240,097	6,065	7,067	2,774	2,545	18,451	258,548
November	39,833	25,900	124,633	36,467	24,667	261,300	2,467	7,366	.....	1,767	11,600	272,900
December	21,419	14,033	122,774	32,839	33,774	224,839	6,290	10,613	3,097	290	19,290	244,129
January	17,613	13,519	154,225	32,902	30,612	248,871	2,032	11,677	3,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,250
March	27,645	18,935	141,160	26,290	21,129	238,161	4,065	2,580	.....	1,968	8,613	246,774
April	35,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	.....	.....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	.....	2,000	.....	.....	2,000	200,065
June	30,067	10,833	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1930—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
July:	Month	18,802,024	18,032,514	25,973,521	3,541,409	1,713,680	2,079,769	3,275,894	3,830,000	77,248,811
	Daily average	606,517	581,694	857,856	114,239	55,280	67,089	105,674	123,548	2,491,897
August:	Month	18,770,466	17,162,034	25,069,538	3,491,530	1,700,102	2,151,120	3,193,341	3,417,000	74,955,191
	Daily average	605,499	553,614	808,696	112,630	54,842	69,391	103,011	110,226	2,417,909
September:	Month	17,984,306	16,509,120	23,111,822	3,405,510	1,583,280	2,008,060	3,239,010	3,396,000	71,237,108
	Daily average	599,477	550,304	770,394	113,517	52,776	66,935	107,967	113,200	2,374,570
October:	Month	18,244,053	16,632,523	23,626,553	3,571,913	1,636,552	2,142,885	3,325,550	3,527,000	72,707,029
	Daily average	588,518	536,533	762,147	115,223	52,792	69,125	104,050	117,000	2,345,388
November:	Month	18,109,459	14,941,770	22,035,222	3,459,330	1,557,870	2,136,948	3,957,100	3,222,000	68,419,699
	Daily average	603,648	498,059	734,507	115,311	51,929	71,231	98,570	107,400	2,280,656
December:	Month	17,786,728	15,057,103	21,810,359	3,432,661	1,590,951	2,157,584	3,118,663	3,328,000	68,281,999
	Daily average	573,765	485,713	703,560	110,731	51,321	69,598	100,602	107,355	2,202,645
1931—										
January:	Month	16,485,728	14,850,953	20,019,212	3,432,475	1,574,955	2,135,027	2,966,142	3,374,000	64,838,512
	Daily average	531,798	479,063	645,781	110,725	50,805	68,872	95,682	108,839	2,091,565
February:	Month	14,930,922	13,531,980	18,957,571	3,341,016	1,402,492	1,981,616	2,747,034	3,129,000	60,021,631
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,629
March:	Month	16,364,842	16,627,687	22,452,619	3,498,598	1,469,245	2,061,576	2,898,035	3,374,000	68,747,602
	Daily average	527,898	536,377	724,310	112,858	47,395	66,502	93,485	108,839	2,217,665
April:	Month	15,803,541	16,815,990	26,8[illegible]	3,281,880	1,412,220	2,008,021	2,901,870	3,273,000	72,384,229
	Daily average	526,785	559,255	896,2[illegible]	109,396	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,960	17,333,867	28,708,684	3,341,366	1,446,274	2,232,568	3,098,419	3,196,000	75,800,138
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	103,100	2,445,166
June:	Month	15,641,436	16,678,200	29,139,833	3,175,440	1,344,450	1,850,511	2,986,200	3,166,000	73,982,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,069
Total 12 months		205,372,485	194,173,741	287,793,711	40,973,128	18,432,071	24,945,645	36,607,248	40,326,000	848,624,029